

Duf ①

Measurements of humerus of *Aquila*
chrysaetos from the asphalt pits at Rancho La Brea.

Length -- taken in millimeters

C1972	216.0	C3611	200.1	C2957	195.5	C 951	190.8
C2162	214.0	C1804	200.1	C3239	195.4	D 984	190.6
C1810	212.6	C4802	200.1	B8853	195.3	D4856	190.6
C1993	211.0	C1152	200.0	C3156	195.3	D3413	190.5
D1274	209.7	C4024	200.0	C8340	194.7	C5942	190.2
B8526	208.0	C4979	199.0	C4859	194.4	C3182	190.2
B9458	206.9	C5778	198.7	C1940	194.2	C4098	190.2
D3794	204.8	C2025	198.6	C2667	194.0	C1870	190.2
C 946	204.0	D6579	198.2	C9022	193.8	C9578	190.1
C2954	203.9	G1503	198.2	D4759	193.5	C3070	189.9
B9436	203.2	C3688	198.0	B8381	193.1	D4928	189.9
C4801	203.0	G1504	198.0	C6759	193.1	C8561	189.8
C7190	203.0	D 684	197.9	C7267	192.7	C9659	189.1
D1030	203.0	C1973	197.8	C1863	192.5	B9295	188.4
C3753	202.9	C5199	197.8	C4980	192.2	C8647	188.2
C7269	202.5	C2663	197.7	C7468	192.1	B8388	187.8
C1336	202.5	C5693	197.6	D3425	192.1	C5889	187.7
C4075	201.8	C3034	197.4	C3171	192.0	C3038	187.6
G1505	201.7	D2478	197.2	C9699	191.9	G1717	187.3
C4947	201.6	C 340	197.1	C1813	191.9	D 601	187.2
C1016	201.5	D 863	197.1	C3160	191.8	C2991	187.0
D3364	201.4	C4680	197.0	D2661	191.2	C2060	186.9
D1986	201.4	C4786	196.3	D3387	191.1	C1045	186.9
D5644	201.2	C2436	196.3	D3477	191.0	B8386	186.9
B9292	201.1	C6319	196.2	C 941	191.0	C4099	186.6
C1993	201.1	C5152	195.7			C 936	186.5
		B9435	195.6			C4604	186.3

humerus
Osgood
p. 2

Dup

(2.)

C6418	186.2	C1065	179.7
C4066	186.2	C1080	179.6
C2064	186.2	G1520	179.1
C6653	186.0	B8385	178.1
C4717	185.9	C2674	177.9
B8387	185.8	C6517	177.4
C3033	185.6	D4438	177.1
C 948	185.3	C2026	174.2
C8945	185.2	C7910	173.7
B9451	184.9		
C6799	184.7		
C2057	184.5		
C6419	184.5		
C9534	184.1		
B8601	184.1		
D1332	184.0		
D 217	184.0		
D 367	183.9		
D1306	183.8		
C6253	183.7		
C5176	183.5		
C9663	183.1		
C4080	182.2		
C 947	182.2		
D1953	182.2		
B8424	182.1		
D1302	181.8		

LOS ANGELES COUNTY LETTERGRAM

TO

Dr. Howard

FROM

D. Fortsch

Subject

Date

No.

Here is a xerox of the measurements McKusick
took on the random sample of Eagle tarso-metatarsae.
Keep or discard as you see fit.

D.E.F.

lee

La Ben Aguilachayada
Rated 9

	W.L.	W.L.	W.L.	W.L.
D 985	100.9	22.6	25.7	
C 7912	102.1	23.6	26.3	
B 9490	101.1			
C 4752	97.7	22.7	24.3	
B 9262	100.8	22.8	24.2	
C 2126	99.3	23.2	25.8	
C 331	100.9	22.4	24.7	
B 8588	102.1	22.6	24.6	
D 3443	105.5	23.6	26.3	
B 9403	99.3	22.4	25.0	
C 8572	99.2	24.1	27.0	
B 8487	102.7	23.4	25.9	
B 9528	102.1	22.3	25.3	
D 6189	100.4		25.4	
C 9461	102.4	22.7	25.4	
D 5844	104.4		24.9	
C 7961	103.7	22.3	23.7	
B 9859	102.2		24.3	
B 9595	101.7	21.9	24.6	
D 5685	99.0	23.2	25.0	
D 6967	102.6			
D 5482	100.3	22.1	26.0	
C 8953	103.0	23.3	25.5	
D 1836	102.4	24.1		
C 9535	100.9		24.6	
D 6467	100.0	21.2	24.2	
C 9858	104.1	22.9	25.6	
C 2542	101.1	23.6	24.6	
C 9085	100.3	23.0	25.7	

La Brea Aquilegia

Rated. ♀

C 7182 97.9 23.6 25.1

C 8437 102.5 22.5 24.6

C 380 104.9 22.6 25.3

B 8438 97.2 23.3 24.7

C 9368 101.1 24.1 26.2

B 7471 101.4 22.7 24.5

D 2074 96.4 22.0 23.8

D 6042 95.3 22.1 24.1

C 5463 101.2 22.3 24.6

D 6716 102.8 25.7

C 9452 104.6 23.6 26.3

D 4395 104.0 23.5

C 6594 98.1 23.6 25.6

C 3283 104.0 23.9 26.9

Max 105.5 24.1 26.9

Min 95.3 21.2 23.7

La Brea *Aquidus abysus*

Rated ♂

Specimen #	ML	Premaxilla	Length	Width	Depth
B 9863	102.4	21.7	23.8		
C 3073	96.1	20.4	22.6		
B 9979	99.2	19.6			
D3540	96.4	19.5	23.0		
C 4610	100.1	20.9	23.9		
D1085	96.5	20.6	23.2		
C 537	100.7		23.4		
B 8576	100.9	21.4	24.7		
D6554	97.0	20.8	22.6		
C 7512	99.7	22.4	24.0		
B 8535	97.1	20.7	22.8		
D6876	93.2	19.4	21.9		
D6935	103.8	21.5	24.0		
D5861	97.4	20.0	22.1		
D9597	97.4	20.0	22.4		
D754	94.9	19.4	22.3		
D3587	95.2	20.2	22.1		
C 7673	96.7	22.3	24.7		
D4776	99.3				
B9560	97.0	20.8	23.2		
C 9175	97.5	20.7	22.3		
D 4878	102.9	20.7	23.3		
C 83	100.2	20.5	24.0		
C 5719	95.8		23.7		
C 6545	98.7	19.9	22.7		
C 4568	100.2	20.7	23.0		
D5434	100.1	21.1	24.0		
C 2280	97.3	21.1	23.8		
D9782	101.4	20.8	23.4		

Rated 07

	M.L.	Wing	Tail	Culmen	Gape	Weight	Sex	Age	Date	Locality	Remarks
D3602	98	1	22	7	24	8					
C9177	96	9	20	4	22	4					
C4088	98	1	20	0	23	5					
B9714	97	6	20	5	22	8					
B8406	99	8	21	5	23	6					
C6525	97	9	21	1	24	2					
D4073	97	3	22	0	24	1					
C5909	96	4	21	8	23	2					
D2415	93	5	20	2	21	9					
B9772	98	3	21	3	23	5					
D5455	98	6	22	1	25	1					
A724	102	7	19	5	23	2					
D6955	98	1	21	9	23	7					
C8959	95	5	20	1	22	9					
C8389	95	7	19	5	21	3					
D6647	95	7	20	4	22	6					
D3549	93	5	20	6	22	7					
C9116	99	2	20	1	22	8					
D4433	95	7	20	5	22	5					
D180	97	5	20	2	23	0					
D135	97	0	20	6	23	5					
D3010	95	4	21	4	21	4					
B9728	99	8	20	1	23	0					
D6141	98	8	20	3	23	9					
C3121	99	5	21	4	23	4					
D4340	97	9	21	8	24	1					
C151	95	1			24	6					
C7664	98	0	20	0	22	5					

Used for 1947 paper

[Later compilation Mar for 1932 paper]

Measurements Modern and Rancho La Brea Pleistocene

Aguiula chrysaetos (in millimeters) Measurements are of length unless otherwise indicated

	Modern Aguiula					La Brea Aguiula					Early Recent P.T. 10 Rancho La Brea								
	No. Specimens	Max	Mean	Min.		No. of Specimens	Max	Mean	Min.		No. Bones	Max	Mean	Min.					
Tarsus	25	134.3	126	118.6		357	136.0	125.0	113.0										
Tibiotarsus	19	170.2	162.5	153.2		171	172.5	161.0	148.0										
Tarsometatarsus	25	110.2	101.0	94.3		660	107.8	98.7	90.5		67	107	99.1	93					
Humerus	25	204.5	188.5	171.9		146	216.6	192.3	173.2		4	198	191	186					
Ulna	24	234.5	220.1	201.2		69	244	224.4	211.5										
Carpometacarpus	16	109.4	102.8	93.2		194	114.1	103.0	93.9										
Coracoid	24	73.9	67.4	61.2		153	77.0	68.2	60.0		5	70.2	67.8	64.8					
Breadth sternum	29	76.7	68.8	62.2		15	72.5	65.4	58.6										
Length sternum	29	133.0	119.8	110.6		25	131.5	121.5	114.4										
Breadth femur	25	84.5	79.1	68.3		3	84.6	80.4	78.2										
Length bone cleavicle	25	74.6	64.5	58.0		21	73.2	66.8	62.0										
Length sacrum	23	97.7	91.2	86.1		25	99.0	91.3	83.7										
Greatest breadth pelvis	22	65.5	59.9	54.3		13	63.7	60.0	58.5										
Breadth cranium	18	66.9	63.1	61.0		31	71.0	68.2	63.7		1		66.0						
Breadth beak	15	18.3	16.6	14.7		49	22.7	20.3	18.2										
Breadth across mandible	18	37.4	33.7	31.6		15	46.8	43.3	38.8		1		37.5						
Ratio Breadth to Length Beak	15	55.5%	51.0%	46.8%		42	62.8%	58.9%	54.2%										
Ratio Breadth to Length sternum	30	63.5%	57.6%	51.3%		15	56.7%	53.4%	48.0%										
Ratio Height to Length Beak	12	62.7%	58.3%	53.2%		28	72.2%	64.9%	59.2%										
Breadth between temporal foramina	13	39.0	36.0	32.3		71	36.0	31.0	27.4		2	36.7	35.7	34.9					
Ratio of the above to least breadth cranium	18	85.3%	79.0%	73.6%		71	74.5%	66.6%	55.5%										

90
 No. of craniums relative
 to breadth across
 postorbital process
 max mean min
 Modern 66.4 64.3 62.6
 Fossil
 RLB 61.6 59.9 57.2
 P.T. 10 only one specimen 60.3

Skeletons *Aquila Chrysaetos*
L.H.M. collection

- # 154 - Parts from old skin - Tail feathers white base
 # 345 - Body only. Skin by Geo. Willitt
 # 421 - ♀ Old skin from L.A. Museum.
 # 471 - Body from J.E. Law
 # 474 - ♂ " " " " " Chiricahua Mts, Ariz
 # 486 - ♂ " " A.B. Howell.
 # 679 ♂ " " J.E. Law " " "
 # 900 } Dry carcasses picked up in Oregon by
 # 901 } Stanley Jewett. Sex not known
 # 923 }
 # 926 }
 # 927 }
 # 975 }
 # 1407 }
 # 1420 } Parts picked up, Riverside, Calif.
 # 1441 } Picked up on Mojave Desert by Jas. Tait
 # 1442 } "
 # 1560 Picked up, Buena Vista, Ore., Tail white at base, 59, June
 # 1900 ♀ ad. San Diego Zoo., wt 4.54 Kilograms.
 # 1938 " " " "

899 ♂ - Manilla, Calif.

Here is the sum total of my data
on these skeletons. Sincerely

Padre

Other skeletons *Aquila*

LACM 2419

827

468 Riverside

1073 ♀ Griffith Park

59

1088

969

210

4

(2 specimens)
3

929 ♂ Orange Co.

MVZ 42684

41410

50475

LACM 17608 ♂ Los Angeles

17919 N. Mex.

969 Arizona

$$\sigma = \frac{\sqrt{\sum(d^2)}}{N}$$

$$\sigma^2 = \frac{\sum(d^2)}{N}$$

use $d = \text{dev. from mean of large pop.}$
 $\div$ by σ of large pop.
 d/σ to determine whether
 single specimen belongs to a pop.

$$\sigma_M = \frac{\sigma}{\sqrt{N}} \quad \text{or in other words} \quad \frac{\sqrt{\sum(d^2)}}{N/\sqrt{N}}$$

$$\sigma_M^2 = \frac{\sum d^2}{N^2}$$

best formula of $\sigma d =$

$$\sqrt{\frac{N_1}{N_2} \times \sigma_M^2 + \frac{N_2}{N_1} \times \sigma_M^2}$$

can also use

$$\sqrt{\frac{\sum(d_1^2) + \sum(d_2^2)}{N_1 \times N_2}}$$

P (not much
 greater than
 0.5 is
 not signif.)

$$d/\sigma d = \frac{M_1 - M_2}{\sigma d} \quad \text{if } d > 3.0 = \text{probably different}$$

++

Casts

Species _____

Subject _____

Dept. Cat. No. _____ Mould _____

MUSEUM OF HISTORY, SCIENCE AND ART
LOS ANGELES, CALIFORNIA

[illegible]

Probable error gives limit
within which 50% of ~~population~~ ^{distribution} occurs

$$P.E. = S.E. \times .6745 (\text{a constant})$$

abscissa = horizontal axis of a graph

ordinate = vertical axis of a graph

class range = ~~width of class~~
~~the~~ no. of items (or whatever
the unit of measure is) range
of each section of graph.

Histogram - a block type of graph
where each entry is as wide
as the ~~spacing~~ ^{abscissa} allowed for its
class range.

To get σ easily, get mean of each class
range - multiply $\times n$ for that class = Σ
get deviation of each class mean from
total mean. Square each deviation
Divide sum of these by $n - 1 / \sigma^2 = \sigma$ of this

Coefficient of variation = C.V.

$$C.V. = \frac{\sigma}{M} \times 100$$

[C.V. of var. compares variability of two groups measured in different units: i.e., "are the flowers more variable in length or in color?"]

Standard error = S.E.

$$S.E. \text{ of mean} = \frac{\sigma}{\sqrt{n}}$$

[Standard error $\frac{\sigma}{\sqrt{n}}$ shows chance of sample falling in true range of the mean. Within 1 S.E. 68% OK (32 chance in 100 that true mean lies outside) within 2 S.E. only 5% outside; 2.6 S.E. only 1% chance of not being in range of true μ .

S.E. of difference bet. 2 means

$$= \sqrt{(S.E._1)^2 + (S.E._2)^2}$$

A difference must be at least twice as great as to S.E. to be a true difference.

Tarsus - Aquila

	Length			Ratio prox distal			Ratio distal d length		
	Max	M	Min	max	M	min	Max	M	min
Modern	108.7	100.4	96.1	25.1	22.5	20.8	22.0	20.3	18.4
Pt 16 (100.9)	105.1	98.5	90.4	23.8	21.7	19.1	22.0	19.8	17.6
Pt 10 ²⁴	106.8	99.9	94.6	25.2	22.0	19.8	21.4	20.0	18.4
Pt A ¹⁷	103.9	98.8	94.1						
Blis 29 (6)	103.8	99.1	95.8						
Pt A + Blis 29	103.9	99.0	94.1						
Pt 4 (N=158)	105.3	98.6	91.3	24.4					

197

d9d

M

	od	d/od
Pt A	1905	1.88
Pt A + Pt 10	1899	1.26
Pt 16 + Pt 10	163	2.20
Pt 16 + 2 mod	1617-620	3.00
Pt 10 + 2 mod	1836	0.598
Pt A + 2 Pt 16	1722	0.277

1.277 A-16	1.2 A-16
1.598 10-mod	1.5 10-mod
1.260 A-10	1.2 A-10
1.880 A-mod	1.4 10-16
2.200 10-16	1.8 A-mod
3.00 16-mod	1.9 16-mod

Humerus

	Length			N
	max	M	min	
Mod.	204.5	187.0	171.9	14
Pt 16	212.2	192.6	182.0	32
Pt 4	209.3	193.2	182.0	12
Pt 10	198.0	191.0	186.0	4

Rotasus humerus (M)

16	51.36
mod	58.8
4	51.0
10	52.3

$$\begin{array}{r}
 19.7 \\
 \hline
 101.6 \overline{) 201.0} \\
 \underline{101.6} \\
 9940 \\
 \underline{9144} \\
 7960
 \end{array}$$

$$\begin{array}{r}
 19.8 \\
 \hline
 1023 \overline{) 2030} \\
 \underline{1023} \\
 10070 \\
 \underline{9207} \\
 8630
 \end{array}$$

Modenquillo shuns

at are
be beak
at are
beak
at level
of top
of cere
be
beak
length
tarsus
be
shull

92. Nov. 1908					
♀ 5952	18.3	21.8	28.6	95.4	61.8
uplifting Dec.					
♀ 5951	19.1	21.3	28.2	101.3	(61.5)
Altadena Jan.					
♀ 1688	19.6	22.8	29.7	103	—
San Berno Oct.					
♂ 1640 willer	19.2	22.3	28.3	97.4	62.3
Mohave Nov.					
♂ 20180	19.0	21.8	29.3	99	63.5
San Berno Oct.					
♀ 1692 willer	18.9	22.4	31.9	101	63.5
Chy. Pk. Feb.					
♀ 3641	19.9	23.8	(29.7)	102	(65.2)
San Berno Oct.					
♀ 1113 willer	20.0	22.5	28.0	103?	—
Exp. Canine					
♂ 3001 Nov.	(17)	21.3	(25.7)	97	62.7
So Cal into Spt					
426	19.2	22.7	29.7	98.4	62.2
East Lake Nov.					
125	(21.0)	24.5	(30.7)	103	64.2
Griff. Pk. Dec.					
♀ 1686	18.2	20.1	22.7	98.4	61.8
♀ 19798	20.0	23.9	(26.7)	106	66.1
Int. Wash.					
♂ 140462	19.3	23	36.2?	104	66.1
Alameda					
♂ 43309	19.0	21.8	33	94	55.5?
Min.					
♀ 4083	17.2	23.3	30	97.7	63.2?
Oregon					
♀ 45135	20.9	(25.0)	33	101	67.2?
mean	17.3	mean	mean	mean	mean
19.0	22.5	100	64.2		
19.3	22.5				
France Mar.					
♀ 4227	16.3	21.4	26.8?	102	66.7?
Austria					
♂ 50419	15.8	21.0	24.4	99.6	63.5?

16.1
19
32
17.5
17.3
16.1
15.2
21) 3908
21
180
168
128

118.6

508.0
170.0
22
22
22
68
(100.4)

1700
1002.6
27) 27026 (100.1
27
0026

Comparison int fossil with 1073

	fossil	Recent	aver Rec.	average fossil 93.5	Pot. max fossil mt. 1073	aver Rec.
4-7% Coracoid	71.3 73.4		67.4	68.2 93	72.5 96.8%	
7% Sternum	70.2			65.3 93		
humerus	204	204.5 89%	187 91.5 91073	192.3 94.9%	216.6 94.5%	
5-6% layer man arm	201					
ulna	236	234 92%	217.4 92.8	224.4 93	244 96.7%	
5-7% layer	240					
Carpus	110 (both)	109.4 89%	100.9 92	103.0 94.9%	113 97.4	
6% layer						
femur	129	134 69%	125.6 93.8	125 97.9%	134 95.6	
3-4% layer	130					
tibia	164 (both)	170 59%	161.4 95	161 95.9%	173 97.8	
5% layer						
tarsus	105 (both)	107 69%	100.4 94.0	98.7 94.2%	107.6 97.7	
6% layer						
cranium	69.4	66.9 51.9%	63.2 94.5	67.4 96.9%	70.1 99.3	
4% layer						
beak b	22.7	18.0 71.9%	16.8 92.4	20.4 90%	23.2 98.	
10%						
Ratio	51.5 90	52.5				
Ratio						
femur humerus	63	64.0				
sternum b	70.2			65.3 93.9% mt.	63.7 99	
5% pelvis b	65.2			60.0 95.9%		
sacrum	92.5			91.3 98.9%	99 93	

br. leachii (modern)

21.0

19.7

19.4

18.0

21.0

20.0

20.8

21.7

18.5

18.7

19.1

20.5

19.0

18.2

21.5

23.2

16) 328.3 (20.0

16.1

16.2

17.0

18.0

4) 67.3 (16.8

4

27

24

33

Temp scars ditto pair

form

30.3

31.0

30.7

32.0

30.3

30.1

34.1

31.7

27.8

27.8

30.8

31.9

30.1

35.0

31.7

30.4

29.8

31.1

33.3

19) 548.1 (31.0

57

20

19

11

br. cranium

form

mod

66.4

67.4

69.3

65.1

67.3

66.8

69.0

68.6

64.5

67.4

67.8

66.6

65.4

67.7

66.2

69.6

66.7

70.0

70.1

19) 1281.9 (67.4

114

141

133

89

Length	dist	deltoid	biac h.	Humerus
3808.4 - 20	658.9 - 20	1320.4 - 19	659.2 - 16	Apicula
3840.4 - 20	599.8 - 18	1410.2 - 20	782.8 - 19	La Brea
3894.3 - 18	370.2 - 11	1210.3 - 17	503.7 - 12	Fossil
11743.1 - 58	1628.9 - 49	3940.9 - 56	1945.7 - 47	

$$\begin{array}{r}
 192.1 \\
 58 \overline{) 11143.1} \\
 \underline{58} \\
 534 \\
 \underline{522} \\
 123 \\
 \underline{116} \\
 71
 \end{array}$$

$$\begin{array}{r}
 33.2 \\
 49 \overline{) 1628.9} \\
 \underline{147} \\
 158 \\
 \underline{147} \\
 119
 \end{array}$$

$$\begin{array}{r}
 70.4 \\
 56 \overline{) 3942.9} \\
 \underline{392} \\
 229
 \end{array}$$

$$\begin{array}{r}
 41.4 \\
 47 \overline{) 1945.7} \\
 \underline{188} \\
 65 \\
 \underline{47} \\
 187
 \end{array}$$

Fossil

2619.4 - 14	491.5 - 15	1001.8 - 15	
1502.2 - 8	270.8 - 8	533.2 - 8	
41216.22	7623.23	1535.0 - 23	

Modern

$$\begin{array}{r}
 187.3 \\
 22 \overline{) 41216.22} \\
 \underline{22} \\
 192 \\
 \underline{176} \\
 161 \\
 \underline{154} \\
 76
 \end{array}$$

$$\begin{array}{r}
 33.1 \\
 23 \overline{) 762.3} \\
 \underline{69} \\
 72 \\
 \underline{69} \\
 36
 \end{array}$$

$$\begin{array}{r}
 66.5 \\
 23 \overline{) 1535.0} \\
 \underline{138} \\
 151 \\
 \underline{138} \\
 130
 \end{array}$$

$$\begin{array}{r}
 40.4 \\
 8 \overline{) 323.4} \\
 \underline{32}
 \end{array}$$

Platysdeltoid length

deltoid to length

$$\begin{array}{r}
 344.5 - 20 \\
 312.4 - 18 \\
 190.9 - 11 \\
 847.5 - 49 \\
 49 \overline{) 847.5} \\
 \underline{49} \\
 357 \\
 \underline{343} \\
 145 \\
 243.7 - 14 \\
 143.8 - 8 \\
 387.5 - 22 \\
 22 \overline{) 387.5} \\
 \underline{22} \\
 167 \\
 \underline{154} \\
 135
 \end{array}$$

$$\begin{array}{r}
 688.0 - 19 \\
 735.6 - 20 \\
 624.3 - 17 \\
 2047.9 - 56 \\
 56 \overline{) 2047.9} \\
 \underline{168} \\
 367 \\
 \underline{336} \\
 316 \\
 495.9 - 14 \\
 282.4 - 8 \\
 778.3 - 22 \\
 22 \overline{) 778.3} \\
 \underline{44} \\
 338 \\
 \underline{330} \\
 88
 \end{array}$$

Mod.

Tarsi Pst 16 length

1943.6	- 20	97.1	} M = 98.5
1991.8	- 20	99.5 ✓	
1984.5	- 20	99.2	
1978.3	- 20	98.9	
1957.5	- 20	97.8	
9855.7	100		

1962.6	- 20	- 98.6	} M = 98.5
1988.9	- 20	- 99.4 ✓	
1963.4	- 20	- 98.2	
1969.2	- 20	- 98.4	
1472.2	- 15	- 98.1	
9358.3	- 95		
9855.7	- 100		
192140	195		

$$M = 98.5$$

ratio br. prox to length

432.1	- 20	} 21.6 M	max 23.8
432.5	- 20		min 19.1
434.9	- 20		
435.0	- 20		
432.9	- 20		
2167.4	100		

435.4	- 20	} 21.7 M
433.9	- 20	
436.3	- 20	
435.4	- 20	
3237	- 15	

$$2064.7 - 95$$

$$2167.4 - 100$$

$$42321 - 195$$

$$M = 21.7$$

ratio br. distal to length

399.8	} 100 M = 19.8	max. 22.0
397.6		min. 18.0 (17.6?)
397.0		
396.3		
392.8		
1983.5		

401.2	} 95 M = 19.8
396.6	
398.5	
398.0	
296.6	

$$1890.9$$

$$1983.5$$

$$3874.4$$

$$M = 19.8$$

disk to length diameters
mod, mean 20.3
N = 24

Ch 10, mean = 20.0
N = 24

$$M - M = .3$$

d	d ²
.5	.25
.4	.16
.3	.9
.8	.64
.8	.64
.3	.90
1.3	1.69
1.2	1.44
.3	.90
.9	.81
.9	.64
.8	1.00
1.0	.64
.8	1.69
1.3	2.89
1.7	1.21
1.1	3.61
1.9	1.21
1.1	.49
.7	.81
.9	1.69
1.3	.16
.4	.64
.8	1.96
1.4	

$$\begin{array}{r} .046 \\ .035 \\ \hline \sqrt{.081} = .2845 \end{array}$$

$$\begin{array}{r} 1.05 \\ 2845 \overline{) 3000} \\ \underline{2845} \\ 15500 \end{array}$$

d	d ²
.5	.25
1.4	1.96
1.1	1.21
.6	.36
.8	.64
1.3	1.69
.5	.25
.36	.136
1.21	1.21
3.61	.90
.49	.49
.36	.49
.49	.49
.49	.49
1.40	2.56
2.56	.16
.16	.25
.25	.25
.40	.40
.49	1.69
1.69	20.51

$$\begin{array}{r} .046 \\ 576 \overline{) 26.970} \\ \underline{2304} \\ 3930 \\ \underline{3526} \\ 404 \end{array}$$

$$\frac{\sum d^2}{N^2} = .02M$$

$$\begin{array}{r} 1035 \\ 576 \overline{) 20.51} \\ \underline{1728} \\ 3230 \\ \underline{2880} \\ 350 \end{array}$$

$$\frac{\sum d^2}{N^2} = .02M$$

$$\begin{array}{r} .305 \\ .305 \\ \hline 1525 \\ 915 \\ \hline .093025 \end{array}$$

$$\begin{array}{r} .2865 \\ .2865 \\ \hline 14325 \\ 17190 \\ \hline 22920 \\ 5730 \\ \hline .08206225 \end{array}$$

$$\begin{array}{r} 2864 \\ 2864 \\ \hline 11456 \\ 17184 \\ \hline 22912 \\ 5728 \\ \hline .08202496 \end{array}$$

$$\begin{array}{r} 2862 \\ 2862 \\ \hline 5724 \\ 17172 \\ \hline 22896 \\ 5712 \\ \hline .0819104 \end{array}$$

$$\begin{array}{r} 2844 \\ 2844 \\ \hline 11376 \\ 11376 \\ \hline 22752 \\ 5688 \\ \hline .0808336 \end{array}$$

Reg. La Brea

Platob
temp to
br at p. 0

$$M = 66.4$$

-4.2	17.64
-6.8	42.24
6.0	36.0
5.6	31.36
.9	.81
.2	.40

N=28

-1.4	1.96
-3.1	26.01
-1.9	3.61
-4.2	17.64
-4.6	21.16
-4.1	16.81
-1.8	3.24
-1.2	1.44
-2.3	5.29
0	0
-1.8	3.24
-5.2	27.04
+1.4	1.96

$$28 \overline{) 261.96}$$

$$\frac{18}{28} = .64 \times \frac{0.2}{N_{11}}$$

$$.64 \times 33 + 1.55 \times 334$$

$$.64 \times 581 + 1.55 \times 334$$

$$.37184 + .40770$$

$$57.26 \text{ W}$$

$$5d = \frac{18}{28} \times .5726 + \frac{28}{18} \times 3249$$

$$3.06 \times 2 = 6$$

$$5d = 2$$

$$\sqrt{9.35}$$

$$28 \overline{) 261.96}$$

$$2 \overline{) 261.96}$$

$$84 \overline{) 15.4}$$

$$N_1 = 18$$

$$N_2 = 28$$

$$.64 \times 18 \times .5726 + 121 + 157 = 3.08$$

$$5d = \sqrt{285.4 + 261.9} = 450.3 = \sqrt{1.89}$$

$$18 \times 28 = 504$$

$$20 \overline{) 1296.9}$$

$$120 \overline{) 96}$$

$$80 \overline{) 169}$$

$$160 \overline{) 9}$$

$$28 \overline{) 9.35}$$

$$84 \overline{) 93}$$

$$84 \overline{) 110}$$

$$20 \overline{) 1296.9}$$

$$20 \overline{) 96}$$

$$80 \overline{) 169}$$

64.8

-2.4	-4.15
-5.0	25.00
7.8	60.18
5.4	29.00
2.7	7.28
2.0	4.00
.4	.16
3.3	10.42
.1	.10
2.4	5.75
2.8	7.82
2.3	5.29
0	
.6	.36
-1.5	12.5
1.8	3.24
1.0	1.00
3.4	11.56
3.2	10.24
.8	.64
20	186.35

3.28

4.77

3.28

$$\begin{array}{r}
 173 \\
 447 \overline{) 328.0} \\
 \underline{312} \\
 1510 \\
 \underline{1341} \\
 1690
 \end{array}$$

$$\begin{array}{r}
 73 \\
 73 \\
 \underline{219} \\
 5119 \\
 \underline{5529}
 \end{array}$$

$$\begin{array}{r}
 415 \\
 417 \\
 \underline{412} \\
 2919 \\
 \underline{417} \\
 106888
 \end{array}$$

$$\begin{array}{r}
 44 \\
 44 \\
 \underline{446} \\
 2476 \\
 \underline{1784} \\
 1784 \\
 \underline{198916} \\
 1736
 \end{array}$$

	a	b	c																
	gust	B	Rn	Ba	ca														
		pur	dist																

B ⁸ 929	96.0	21.2	19.2	22.1	26.0	923	98.6
39 1073	105.1	24.8	22.8	23.5	21.6	629	101.9
4 1291	95.3	23.9	22.0	24.3	22.4	471	100.0
8 1760	97.6	21.3	19.7	21.8	20.2	1420	100.5
300 468	99.2	23.4	21.2	23.6	21.4	899	99.8
pur 969	100.5	21.0	19.1	20.9	19.0	975	110.2
1088	101.5	24.1	22.3	23.6	21.9		608.4
8 241	96.1	21.5	19.3	22.3	20.1		2006.7
1444	100.2			8) 182.0	166.4	2615.1	
1440	102.5			22.5	20.8		100.6
1560	101.8						
1938	98.6						
42606	106.8						
41410	94.3						
927	101.8						
1442	102.0						
926	99.0						
1407	104.8						
474	97.8						
900	102.8						
	2006.9						

Length comp. to bulge on M_2 (neg. length)

Mt. Aguila (La Brea)
measurement

$$\begin{array}{r} 140 \\ 28.3 \\ \hline 168.3 \end{array}$$
$$\begin{array}{r} 140 \\ 96 \\ \hline 236 \end{array}$$

Aquila coronoid
modern HAM

	ND					ND					ND				
	BA	CA	DA	EA	FA	GA	HA	EB	CB	HE	GC	HA	IE		
4	78.6	62.2	18.6	31.6	46.2	45.5	60.2	69.4	79.2	86.8	73.3	27.4	49.1		
5	77.3	61.6	18.3	32.2	71.3	45.6	58.0	70.5	79.8	82.3	74.1	26.5			
1791	—	—	19.8	31.6	60.6	47.7	55.5?	66.2	—	—	—	26.59			
897	79.2	62.6	18.8	31.9	70.7	45.6	57.5	69.8	79.3	82.4	72.9	26.3			
241	75.8	62.0	17.3	31.6	69.4	44.9	57.4	70.5	79.7	81.3	72.3	25.7			
1088	77.3	62.0	18.1	32.7	74.4	46.5	55.4	70.3	80.3	80.4	74.6	26.2			
1468	79.8	61.4	20.1	33.7	46.4	48.8	59.5	69.2	86.8	86.2	74.5	29.0			
1673	79.5	61.7	18.4	31.7	70.3	46.2	59.5	68.6	77.7	84.3	74.7	26.7			
1760	—	—	17.6	31.9	76.3	46.4	58.4?	68.6	—	—	—	27.1			

$$\begin{array}{r} 78.5 \\ 7154 \overline{) 93} \end{array}$$

$$\begin{array}{r} 32.1 \quad 70.0 \quad 46.3 \\ 9 \overline{) 288.8} \end{array}$$

$$\begin{array}{r} 81.9 \quad 74.5 \\ 583.7 \overline{) 521.4} \end{array}$$

$$\begin{array}{r} 407.5 \\ 55.5 \\ 463.0 \\ 58.4 \\ 9152 \overline{) 1.4} \end{array}$$

$$\begin{array}{r} 53.9 \quad 60.5 \\ 53.9 \quad 58.9 \\ 407.5 \\ 689.3 \\ 19 \overline{) 1096.8} \end{array}$$

	Length humerus			Pr. prox end		Ht biacrom		br. dist end		Length deltoid	
	max	M	min								
La Brea all pits	(18) 214.9	191.7	176.8	(25) 42.1	38.0	35.0	(47) 46.6	41.3	38.0	(14) 37.0	33.2 30.1
Pt 10 Modern	(20) 204.7	187.3	173.5	(23) 41.0	37.4	34.6	(8) 43.4	40.8	37.7	(6) 36.3	33.1 30.1

mod	✓	1441.100,2	✓
avg.	✓	1400	102,5 ✓
tans	✓	1560	101,8 ✓
	✓	1938	98,6 ✓

~~488~~ 99.7 ✓ 241 96.7 ✓
✓ 1088 101.7 ✓
✓ 969 101.2 ✓
✓ 929 96.1 ✓
✓ 468 97.8 ✓

V 1073 107.0 ✓ 105.1

✓ 42684 106,8 ✓

✓ 41410 94.3 ✓

✓	927	106,8	✓
---	-----	-------	---

✓ 1442 102.0 ✓

✓ 926 99.0 ✓

✓ 1407 1048 ✓

✓ 474 97.8 ✓

 $\sqrt[3]{900} = 9.65 \checkmark$

✓ 923 98,6 ✓

✓ 679 1063 ✓

✓ 471 100.0 ✓

✓ 1420 100.5 ✓

✓ 899 97.8 ✓

✓ 975 110.2 - 109.1

24) 24⁹⁰ 13 (19)

94	1
----	---

95

91	2
----	---

14	2
93	2

7

98	2
----	---

99	2
----	---

cad	3
-----	---

107

102	3
-----	---

10	7
11	7

607	—
-----	---

104	5
	1

105

106 ✓

107	1
-----	---

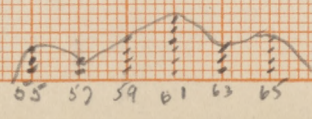
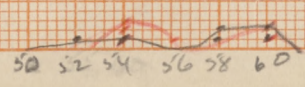
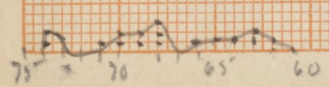
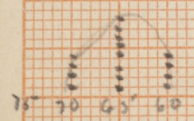
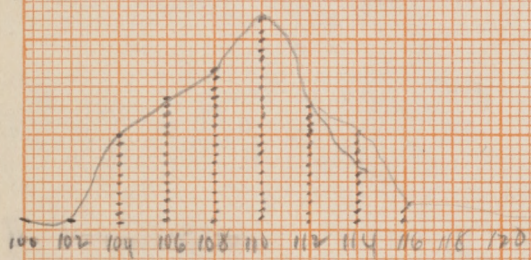
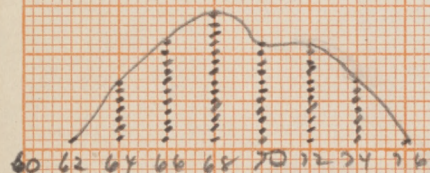
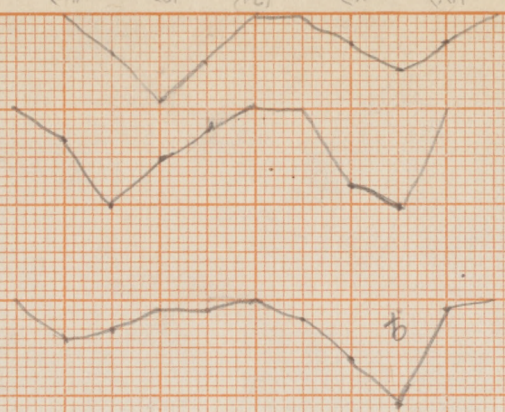
110

$$\begin{array}{r} 242.3 \\ 110.2 \\ \hline 23 \overline{) 2317.1} \\ \underline{23} \\ 0171 \end{array}$$

ps
dumb
95
dumb

to all phone
pass on
dumb

181 141 121 101 001 06



Eagle

Longest & smallest bones of Opuscula

C18672 107.0
 tarsi
 length

C 2172 107.2 24.7 23.4

C 2269 90.3 20.4 18.5

C 11
 C 1.138
 D 1346
 Corpus
 length
 for
 max
 depth
 max

114.0 25.2 18.4

93.8 23.1 15.0

C 6679 78.4?
 C 4608
 C 7301
 Coracoid
 length
 for
 max
 depth
 max

76.2 25.5 12.3

61.0 20.8 9.8

68.6 23.1 11.0

137.2 46.3 22.1

C 1972
 C 7910
 Humerus
 length
 dist

216.0 37.1

173.2 30.6

CX	59.	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
	59.5	60.4	61.3	62.0	63.3	64.7	65.2	66.3	67.2	68.2	69.3	70	71.0	72.0		74.0		76.0
				62.5	63.7	64.0	65.5	66.3		68.4		70.8						
					63.2	64.0	65.2	66.4		68.7		70.6						
					63.0		65.4	66.7		68.2		70						
							65.6			68.6								
										68.4								

ex	59.1	60.7	61.3	62.0	63.7	64.3	65.2	66.3	67.3	68.7
	59.7	60.6		62.5	63.1	64.5	65.1	66.7	67.8	✓
	59.7	60.7		62.5	✓ 63.0	64.6	65.6	66.6	67.3	✓
	59.3	60.6			63.7	64.6	65.0	✓	67.2	✓
		60.6			63.4				67.4	✓

ex	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
	87.8	✓		90.1	91.7	92.1	93.7	94.8	95.3	96.5	97.7		99	100	101		103
				90.5	91.0	92.5		94.8	95.5		97		99.2	100			103
				90.2		92.4			95.3		97.5		99.5	100			
						92.2			95		97.6			100			
											97.4			100			
											97.0						

Cranium

Ratio (lea)
br back of p.o. fur
to p. br.

Pit

— 77.3 —
75.8 72.4 - 68.2
72.0 71.4 - 70.9
71.9 - 69.8 - 67.4
— 69.3 —
71.0 69.2 - 67.2
71.5 69.1 - 67.0
71.0 - 68.5 - 67.7

37 - 1
mod - 20
10 - 2
4 - 14
60 - 1
3 - 4
Mek - 9
2 - 3

mod - 20

37 - 1

10 - 2

Mek 15

14 44

2 - 5

4 - 29

3 - 7

Ratio (cb)
distance bet. temp.
scar T br behind p.o. fur

85.3 - 78.7 - 73.4
77.3 —
78.2 76.0 - 73.7
71.4 66.9 62.8
72.6 66.3 60.7
70.1 66.1 61.9
71.3 65.7 59.8
67.4 62.5 58.0

Beak

Orbital

br to length

18.3 - 16.6 - 14.7 - mod - 15
22.7 20.1 18.2 P 16 21
21.5 20.4 - 19.1 Mek 7
22.7 20.7 18.2 4 - 4

55.5 - 50.9 - 46.8
62.8 58.4 - 54.2
64.1 59.1 55.2
63.1 59.6 55.8

mod - 12

4 18

Mek 6

P 16 14

br to ht

94.8 - 88.0 - 84.6 mod 12
105.0 94.8 88.3 P 21
102.0 93.1 88.1 Mek 7
102.8 97.9 91.1 4 22

XXXXXXXXXXXXXX

ratio temp seal to skull back of p.o. process.

	Recent	Pth 16	Pth 4	Max	Pth 10
No.	18	39	27	15	3
Max	85.3%	74.5	71.3	71.3	78.0
mean	79.0	76.6	65.3	66.5	75.4
min	73.6	58.4	59.8	62.5	73.7
range	11.7	16.1	11.5	8.8	4.3
σ ap	3.2	3.8	2.87	2.53	2.54
σ_M	.75	.6	.551	.65	1.46
d/od with Rec		1.02	.909	1.015	1.93
d/od with Rec		11.7	15.0	12.2	1.86
d in M. "		12.4	13.7	12.5	3.6

Ratio ht to br. back p.o. process

		13	Pth 10
No.	17		3
max	93.4	88.3	86.8
mean	89.7	85.8	84.9
min.	83.3	82.7	82.5
range	10.1	5.6	4.3
σ	2.81	1.67	2.5
σ_M	.65	1.461	1.43
d from M recent		1.39	4.8
od with "		1.853	2.44
d/od	" "	4.57	.50

Gruiformes

(and Ralliformes?)

From a consideration of the fossil record, one is inclined to ~~accept~~ ^{seriously consider} Lowe's (~~1931~~) ~~separation of the rails from the cranes,~~ and ~~seriously to consider his suggestion~~ (¹⁹³¹ ~~ibid~~, p. 531) "that the Telmatomorphs (Charadriiformes, and Gruiformes exclusive of the rallids) stem from a mass of very generalised "marsh birds" all conforming to one uniform type, in consonance with a very uniform and common type of terrain and habit, and that as the evolution of the group proceeded, so diversity and specialization in various directions and among various groups took place which restricted their activities to certain types of territory.

I am in agreement with
Although/Lowe's separation of the rails from the cranes ~~seems~~
~~justified~~ so far as close taxonomic association is concerned, in
of the ralliform birds a
their omission/as descendants of ~~xxx~~ generalized ancestral stock
of gruiforms and charadriiforms
/ does not seem wholly justified. ~~Members of the family Rostratulidae,~~
for example, ~~show~~ resemblance to both shorebirds and rails, ~~and~~ This
family is ~~xxx~~ a very ancient one, with
as well as living members of the family Rostratulidae
Rhynchaetites from the Eocene of Europe/~~show~~ resemblance to both
the shorebirds and the rallids ~~pointing out~~ and ~~pointing out~~ suggest
that the ~~rallids~~ ralliform birds ~~should be considered~~ ~~xxx~~ stemmed
that the ancestors of the ralliform birds

Pt 16 vs Pt 4 97.34 - (16)

Beak

N1XN2 =

18 - ~~(14)~~
19 ~~(16)~~
162
18
342

106.05 - 4
342) 203.39 11.682 = .826
1752
2819
2736
830

59.5
- 58.4
.826) 1.1002 (1.33 = d/od
826
2750
2778
272

Pt 16 vs mod

97.34
80.00 r = .789
288) 177.34 (.622
1710
634
570
640

15' N X N
19
135
15
285
5

59.5
- 50.9
18.600 (1.09 = d/od
789
710

Pt 4 vs mod

106.05
80.00
270) 186.05 (1.088 = .830
1620
2405
2160
2430

18
15
90
18

58.4
- 50.9
.830) 7.500 (1.903
7470
3000

10517
12
18) 10529 (584
90
152
144
89

11324
6
19) 11318 (59.5
95
181
121
108

Beak - Equila

Albur

$$\begin{array}{r}
 1721 \quad 722 \\
 \underline{1721} \quad \underline{722} \\
 721 \quad 1444 \\
 1442 \quad 1444 \\
 \underline{5047} \quad \underline{5054} \\
 5198 \quad 1521289
 \end{array}$$

$$\begin{array}{r}
 24 \\
 \underline{17} \\
 168 \\
 \underline{24} \\
 408
 \end{array}$$

$$\begin{array}{r}
 947 \quad 948 \quad 9 \\
 \underline{947} \quad \underline{948} \\
 6629 \quad 7584 \\
 3788 \quad 3792 \\
 \underline{8523} \quad \underline{8532} \\
 896809 \quad 898704
 \end{array}$$

$$\begin{array}{r}
 905 \quad 905 \\
 \underline{905} \quad \underline{905} \\
 4525 \quad 4525 \\
 855 \quad 0
 \end{array}$$

$$\begin{array}{r}
 90025 \quad 8145 \\
 \underline{819025} \quad \text{4 mtr PK}
 \end{array}$$

$$\begin{array}{r}
 100.4 \\
 \underline{98.5} \\
 1.9
 \end{array}$$

$$\begin{array}{r}
 100.4 \\
 \underline{98.7} \\
 1.7
 \end{array}$$

$$\begin{array}{r}
 100.4 \quad 105 \text{ mtr} \\
 \underline{99.9} \quad 2 \\
 .5
 \end{array}$$

$$\begin{array}{r}
 999 \quad 105 \text{ mtr} \\
 \underline{987} \quad 3 \\
 12
 \end{array}$$

$$\begin{array}{r}
 98.7 \quad 1 \\
 \underline{98.5} \quad 10 \text{ FA} \\
 12
 \end{array}$$

$$\begin{array}{r}
 98.9 \quad 4 \\
 \underline{98.5} \quad 10 \text{ r16} \\
 4
 \end{array}$$

	18	22	22	18	18	22	bad	d.2
	bu	bu	bu	bu	bu	bu		
	a	b	c	ca	ca	ca		
C 0755	38.7	22.7	22.5	58.7	58.0	100.9	.3	.9
D 279	34.5	20.3	21.4	58.9	61.7?	96.4	.5	.25
C 6037	35.3	20.4	20.7	57.8	58.7	98.5	.6	.36
C 8004	31.4	18.2	20.0	58.0	63.7	91.1	.4	.16
C 8777	38.8	22.5	23.0	58.0	54.3	98.0	.4	.16
C 7977	34.8	21.5	21.4	61.8	62.1	99.5	3.4	10.56
C 6028	33.5	19.6	20.2	<u>59.2</u> 58.5	60.4	97.0	.8	.64
D 201	38.0	21.7	22.0	57.2	58.0	98.6	.11	1.21
C 7844	36.6	19.8	20.5	54.7	56.6	96.5	4.0	16.00
C 8403	37.4	21.0	22.3	56.3	59.6	94.7	2.1	4.41
C 9825	32.3	20.3	20.5	62.8	63.5	99.0	4.4	19.36
D 1077	30.5	18.8	18.3	61.7	60.0	102.8	3.3	10.89
C 9069	37.6	21.7?	21.5?	57.7?	57.3?	100.2	.7	.49
C 5369	36.5	21.7	22.0?	59.5	60.3?	98.5?	1.1	1.21
C 5504	32.4	19.1	19.9	59.0	61.5	96.0	.6	.36
D 363	34.7?	21.2?	21.0?	61.3?	60.6?	100.0?	2.9	8.41
D 794	32.0	20.2	20.5	54.5	55.5	98.5	3.9	15.21
C 5502	32.5	21.0	20.7	56.0	55.3	101.2	2.4	5.76
C 7344	—	20.6	22.2	—	—	92.8		
C 8611	—	19.4	20.8	—	—	93.3		94.74
D 1146	—	21.6	21.3?	—	—	101.?		
J 9061	—	22.0?	22.3?	—	—	100.4		

$$\begin{array}{r}
 35.4 \\
 18 \overline{) 637.5} \\
 \underline{72} \\
 97 \\
 \underline{180} \\
 194
 \end{array}
 \quad
 \begin{array}{r}
 20.7 \\
 22 \overline{) 453.3} \\
 \underline{44} \\
 13.3 \\
 \underline{21.4}
 \end{array}
 \quad
 \begin{array}{r}
 21.1 \\
 22 \overline{) 464.8} \\
 \underline{44} \\
 24.8 \\
 \underline{22.5}
 \end{array}
 \quad
 \begin{array}{r}
 58.4 \\
 18 \overline{) 1051.7} \\
 \underline{144} \\
 131 \\
 \underline{144}
 \end{array}
 \quad
 \begin{array}{r}
 59.5 \\
 18 \overline{) 1072.1} \\
 \underline{180} \\
 172 \\
 \underline{180} \\
 101
 \end{array}
 \quad
 \begin{array}{r}
 97.9 \\
 22 \overline{) 2153.3} \\
 \underline{198} \\
 173 \\
 \underline{154} \\
 193
 \end{array}$$

$$98.5 = M$$

Pt 16 + asi aquila Length

d	d2
1.7	2.89
3.9	15.21
3.1	9.61
3.0	9.00
1.1	1.21
3.1	9.61
6.4	40.96
2.4	5.76
1.7	4.9
1.6	2.56
1.7	2.89
2.2	4.84
2.0	4.00
.5	.25
1.8	3.24
.6	.36
1.1	1.21
2.1	4.41
1.9	3.61
2.7	7.29

129,9480

1.4	1.96
.5	.25
.9	.81
2.5	6.25
3.5	12.25
.9	.81
.2	.40
3.3	10.89
2.8	7.84
8.1	65.61
3.8	14.44
1.1	1.21
3.5	12.25
1.8	3.24
1.5	2.25
.3	.90
1.6	2.56
2.5	6.25
2.8	7.84
.3	.9

158,971

3.9	-	15.21
1.6		1.36
4.0		16.00
1.1		1.10
2.9		8.41
1.6		2.56
1.9		3.61
1.4		1.96
1.5		2.25
1.9		3.61
2.5		6.25
3.5		12.25
1.9		3.61
1.2		1.44
3.3		10.89
2.8		7.84
8.1		65.61
3.8		14.44
1.1		1.21
3.5		12.25

178.42

1.8	-	3.24
.5	-	.25
.3	-	.9
1.6	-	2.56
2.5	-	6.25
2.8	-	7.84
.3	-	.9
1.3	-	1.69
1.7	-	2.89
3.1	-	9.61
4.6	-	21.16
.9	-	.81
1.7	-	2.89
1.4		1.96
1.7	-	2.89
.2	-	.4
.1	-	.1
2.8		7.84
1.1		1.21
4.9		24.01

9⁵9¹¹4⁸0

Maxis'

1.1	—	1.21
3.1	—	9.61
2.1	—	4.41
4.2		17.64
3.2		10.24
6.1		37.21
2.1		4.41
2.6		6.76
4.1		16.81
1.8		3.24
1.4		1.96
1.6		2.56
3.9		15.21
2.4		5.76
2.0		4.00
.1		.1
.4		.16
5.3		28.09
.4		.16

1679.54

129,40

158,91

178, 42.

99,40

169,54

72417

2714

$$\sigma^2 M = \frac{\sum d^2}{N^2}$$

1073

10000 | 935.67

700 00

35 67

$$M_1 - M_2$$

1004

958

10.5
19 3.

10.1

17) 1,900

1857

459

10

Pit 16 is modern N₁ (int 100 of Pit 16)

$$\sigma_d \sqrt{\frac{N_1}{N_2} \times \sigma^2 M_1 + \frac{N_2}{N_1} \times \sigma^2 M_2}$$

$$\sqrt{\frac{24}{100} \times 3.21 + \frac{100}{2 \times} \times .073}$$

$$\begin{array}{r} 326 \\ 724 \\ \hline 1284 \end{array}$$

$$\begin{array}{r} 4.17 \\ .073 \\ \hline 1251 \end{array}$$

$$\begin{array}{r} .07702 \\ + .30441 \\ \hline \sqrt{.38143} = .617 \end{array}$$

$$\begin{array}{r} 642 \\ .07704 + 2919 \\ \hline .30841 \end{array}$$

Formula 2 $\sqrt{\frac{\sum d_i^2}{N_1 N_2}}$

185.41
735.67

$$\begin{array}{r} 7200 \\ \underline{921,08684} \\ - \end{array}$$

$$\begin{array}{r} 20100 \\ 19200 \\ \hline 39300 \end{array}$$

Mod
55
P. 514

modern Mean length

Length d	d ²
.6	.36
3.8	14.44
1.7	2.89
.4	.16
8.3	68.89
2.0	4.00
1.6	.36
1.9	3.61
1.9	3.61
1.2	1.44
2.6	6.76
1.3	1.69
1.0	1.00
2.6	6.76
.4	.16
.1	.10
.1	.10
4.8	23.04
1.1	1.21
4.3	18.49
1.1	1.21
4.1	16.81
2.4	5.76
1.6	2.56

185.41

$$\frac{\sum d^2}{N^2} = \frac{185.41}{576} = .321 \text{ (mod.)}$$

$$N^2 = 576$$

$$576 \overline{) 185.41} \\ \underline{1728} \\ 1261 \\ \underline{1152} \\ 1090$$

Pt 10

Length d	d ²
.3	.09
.3	.09
3.3	10.89
.8	.64
1.4	1.96
6.9	47.61
3.6	12.96
3.5	12.25
.7	.49
1.2	1.44
2.5	6.25
4.1	16.81
3.0	9.00
3.0	9.00
.7	.49
1.7	2.89
3.7	13.69
3.2	10.24
5.3	28.09
3.4	11.56
2.2	4.84
2.6	6.76
2.2	4.84
1.9	3.61

218.11

$$576 \overline{) 218.11} \\ \underline{1728} \\ 4531 \\ \underline{4032} \\ 4990 \\ \underline{4608} \\ 382$$

means
100.4 - N = 24
98.5 - N = 195
99.9 - N = 24

modern
Jornal Pth 10
Pth 10

Taurus

$$\sigma d = \sqrt{\frac{N_1}{N_2} \times \sigma^2 M_1 + \frac{N_2}{N_1} \times \sigma^2 M_2}$$

$$\text{mod } \frac{24}{24} \times .321 + \frac{N_2}{N_1} \times .378$$

$$\begin{array}{r} .321 \\ + .378 \\ \hline \sqrt{.699} = .836 \end{array}$$

$$\frac{d}{\sigma d} = \frac{M_1 - M_2}{\sigma d}$$

$$\begin{array}{r} 100.4 \\ - 99.9 \\ \hline .5 \end{array}$$

$$.5 \div .836$$

$$\frac{.598}{.836} = \frac{d}{\sigma d} \text{ Pth 10 mod.}$$

$$\begin{array}{r} 836 \overline{) 500.0} \\ \underline{4180} \\ 8200 \\ \underline{7524} \\ 6760 \\ \underline{6760} \\ 0 \end{array}$$

no sig. diff.

$$\text{Formula 2} \sqrt{\frac{\sum d^2_1 + \sum d^2_2}{N_1 \times N_2}}$$

$$185.41$$

$$218.11$$

$$403.52 \div 576$$

$$.700$$

$$576 \overline{) 403.52}$$

$$\underline{4032} \\ 32$$

$$\sqrt{.700} = .836$$

Same as formula 1

	Length ✓			dorsal			Humerus ✓			l. ext			Ratio ✓			Ratio ✓		
	max	m	min	max	m	min	max	m	min	max	m	min	max	m	min	max	m	min
modern ^L	204.7	187.3	173.5	36.3	33.1	30.1	73.6	66.5	60.7	43.4	40.4	37.7	17.6			37.2	35.3	33.4
Fossils	216.0		173.2	37.0	33.2	30.1	77.2	70.4	64.5	46.6	41.4	38.0	17.3			38.1	36.5	34.7
But 10 ^L (5)	206.5	193.4	187															
Pt A ^L (3)	195.0	190.0	186.3															
Blus 29 ^R (2)	201.5	191.7	181.9															
Pt A + Blus 29 ^R	201.5	190.7	181.9															

Ratio dorsal length to humeral length

	max to max	mean to mean	min to min
modern	53.1	53.6	55.4
fossil	49.1	51.2	51.2

$$\sigma = \sqrt{\frac{852}{114}} = \sqrt{7.49} = 2.73$$

$$\sigma_M = \frac{2.73}{\sqrt{114}} = \frac{2.73}{10.69} = .2555$$

$$\sigma^2_M = .2555^2 = .065$$

$$\sigma^2_M = \frac{\sum d^2}{N^2} = \frac{852}{12996} = .065$$

Tarus Aquila
Mekit.

$$\sigma = \sqrt{\frac{4526}{521}} = \sqrt{8.71} =$$

$$\sigma^2_M = \frac{4526}{270941} = .017$$

Tarus La Brea Aquila

$$\sqrt{\frac{N_1}{N_2} \times \sigma^2_{M_1} + \frac{N_2}{N_1} \times \sigma^2_{M_2}} =$$

~~MIXED~~

$$\frac{114}{521} \times .065 + \frac{521}{114} \times .017$$

$$114 \times 521$$

$$.218 \times .065 + 4.57 \times .017$$

$$.014 + .07769 = .09169$$

Mek → La Brea

$$\sigma = \sqrt{\frac{314}{24}} = \sqrt{13.0} \quad \text{OR} \quad \sqrt{\frac{217.5}{23}} = \sqrt{9.45}$$

$$\sigma^2_M = \frac{314}{576} = .545 \quad \text{OR} \quad \frac{217.5}{529} = .411$$

$$\frac{521}{23} \times .017 + \frac{23}{521} \times .411$$

$$3.842 \times .017 + .0441 \times .411$$

$$3.842 + .0180921 = 3.860$$

$$MP0.15 - 98.6 \quad \frac{2.0}{3.860}$$

$$\begin{array}{r} 25 \\ 17 \\ \hline 175 \\ 25 \\ \hline 425 \end{array}$$

$$\begin{array}{r} 16 \\ 16 \\ \hline 96 \\ 16 \\ \hline 256 \end{array}$$

$$\begin{array}{r} 28 \\ 16 \\ \hline 168 \\ 28 \\ \hline 448 \\ 11 \\ \hline 105 \\ 11 \\ \hline 105 \\ 23 \end{array}$$

$$\begin{array}{r} 55 \\ 12 \\ \hline 1275 \\ 55 \\ \hline 1065 \end{array}$$

$$\begin{array}{r} 107 \\ 749 \\ \hline 107749 \\ 107 \\ \hline 107749 \\ 107 \\ \hline 107749 \end{array}$$

$$\begin{array}{r} 080 \\ 080 \\ \hline 080 \\ 080 \\ \hline 080 \\ 080 \\ \hline 080 \\ 080 \\ \hline 080 \end{array}$$

$$\begin{array}{r} 1069 \\ 2873, 849 \\ \hline 2138 \end{array}$$

$$\begin{array}{r} 5920 \\ 5345 \\ \hline 5750 \end{array}$$

$$\begin{array}{r} 96 \\ 58 \\ \hline 748 \\ 456 \\ \hline 5228 \end{array}$$

$$\begin{array}{r} 114 \\ 8520 \\ \hline 798 \\ 540 \\ \hline 456 \end{array}$$

$$\begin{array}{r} 94 \\ 16 \\ \hline 584 \\ 94 \\ \hline 15124 \end{array}$$

$$\begin{array}{r} 1280 \\ 4264 \\ \hline 1911 \end{array}$$

$$\begin{array}{r} 273 \\ 273 \\ \hline 819 \end{array}$$

$$\begin{array}{r} 274 \\ 274 \\ \hline 1096 \end{array}$$

$$\begin{array}{r} 1911 \\ 546 \\ \hline 7452 \end{array}$$

$$\begin{array}{r} 264 \\ 264 \\ \hline 1056 \\ 1584 \\ \hline 528 \\ 69696 \end{array}$$

$$\begin{array}{r} 26 \\ 26 \\ \hline 156 \\ 52 \\ \hline 676 \end{array}$$

$$\begin{array}{r} 85200 \\ 12996 \end{array}$$

$$\begin{array}{r} 95 \\ 33 \\ \hline 285 \\ 285 \\ \hline 3135 \end{array}$$

$$\begin{array}{r} 6969 \\ 3275 \\ \hline 3275 \\ 3275 \\ \hline 3275 \end{array}$$

$$\begin{array}{r} 98 \\ 65 \\ \hline 490 \\ 588 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 97 \\ 74 \\ \hline 388 \\ 6796 \end{array}$$

$$\begin{array}{r} 87 \\ 27 \\ \hline 10143 \end{array}$$

$$\begin{array}{r} 10143 \\ 4303 \\ \hline 404 \end{array}$$

$$\begin{array}{r} 404 \\ 404 \\ \hline 404 \end{array}$$

$$\begin{array}{r} 404 \\ 404 \\ \hline 404 \end{array}$$

$$\begin{array}{r} 404 \\ 404 \\ \hline 404 \end{array}$$

$$\begin{array}{r} 404 \\ 404 \\ \hline 404 \end{array}$$

$$\begin{array}{r} 404 \\ 404 \\ \hline 404 \end{array}$$

$$\begin{array}{r} 404 \\ 404 \\ \hline 404 \end{array}$$

$$\begin{array}{r} 404 \\ 404 \\ \hline 404 \end{array}$$

$$\begin{array}{r} 865 \\ 748 \end{array}$$

$$\begin{array}{r} 114 \\ 114 \\ \hline 456 \end{array}$$

$$\begin{array}{r} 3030 \\ 3030 \\ \hline 3030 \end{array}$$

$$\begin{array}{r} 114 \\ 8520 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 114 \\ 8520 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

$$\begin{array}{r} 77976 \end{array}$$

modern Aquila
20

gr
br
M

63.0

d

d2

fd

2 61.2 1.8 3.24 6.48

3 61.9 1.1 1.21 3.63

62.0 1.0 1.0 1.00

3 62.4 .6 .36 1.26

62.5 .5 .25 .25

62.8 .2 .4 .40

62.9 .1 .1 .10

63.4 +.4 .16 .16

2 63.6 +.6 .36 .72

64.3 1.3 1.69 1.69

2 64.5 1.5 2.25 4.50

64.9 1.9 3.61 3.61

66.9 3.9 15.21 15.21

20) 39.01

$\sqrt{1.95}$

$\sigma_v = 1.4$

$\sigma^2_M = .97$

4005 $\frac{39.01}{36.00}$
3010

Length Tarsi Agnatha

Humerus

Jossip max 107.6
 414 bones min 90.7
 mean 98.7

468 99.3

929 95.9

969 100.5

1088 101.6

241 96.7

1073 107.0

MWZ
 42686 106.8

mean
 927 101.8

923 98.7

MWZ
 41410 94.3

10) 1002.6
 100.0

Modern

42
70
12
12

Aquila mas

McKittich

Fossil

OK

ht. cran.	17		41.8	40.5	38.8										19	41.6	40.5	39.0
ht. cran. to gbr.	17		66.4	64.3	62.6										19	61.5	59.9	57.2
br. back p. eye to gbr.	18		75.8	72.3	68.2										18	72.4	70.0	67.4
No.	No.	Total	meas. of spec.							no of spec.	max	mean	min		spec.	max	mean	min.
of	of	of	Max	Mean	Min.					min					meas.			
Specs.	Specs.	#																
Femur	25	3151.4	134.3	126	118.6									Femur	357	136.0	125.0	113.0
Tibia	19	3087.5	170.2	162.5	153.2									Tibia	171	172.5	161	148
Tarsus	25	2527.7 2014.4	110.2	101.0	94.3					114	106.5	99.1	92.6	Tarsus	660	107.8	98.7	90.5
Humerus	25	4713.3 3744.4	204.5	188.5	171.9					3	205	194.0	179	Humerus	146	216.6	192.3	173.2
Ulna	24	5242.8 4173.6	234.5	220.1	201.2					2	249.2		235.2	Ulna	69	244	224.4	211.5
Carpus	16	1644.8	109.4	102.8	93.2					25	106.7		95.5	Carpus		114.1		93.9
Coracoid	24	1518.8	73.9	67.4	61.2									Coracoid	153	77	68.2	60
Is. sternum	25	2053.3 1720.3	76.7	68.4	62.2									Is. sternum	15	72.5	65.4	58.6
Length "	25	3029 2988.1	133.0 138.3	119.8	110.6									Length "	25	131.5	121.5	116.4
Is. furcula	25	1979.5	84.5	79.1	68.3									Is. furcula	3	84.6	80.1	78.2
Is. clavicle	25	1613.4	74.6	64.5	58.0									Is. clavicle	21	73.2	66.8	62.0
Is. sacrum	23	2097.9	97.7	91.2	86.1									Is. sacrum	25	99.0	91.3	83.7
Is. pelvis	22	1318.1	65.5	59.9	54.3									Is. pelvis	13	63.7	60.0	58.5
Is. cran.	18	1135.8	66.9	63.1	61.0					68	74.2		66.0	Is. cran.	31	71.0	68.2	63.7
Is. beak	15	249.1	18.3	16.6	14.7					10	21.9		20.6	Is. beak	49	22.7	20.3	18.2
Is. ramus	18	606.6	37.4	33.7	31.6									Is. ramus	15	46.8	43.3	38.8
Is. to length beak	12	714.8 621.8	55.5	51.0	46.8					16	65.1		55.4	Is. to length beak	42	62.8	58.9	54.2
Retrobr. - l. stem	25	1730.6 1440.1	63.5	57.6	51.3									Retrobr. - l. stem	15	56.7	53.4	48.0
Is. to length beak	12	700.2	62.7	58.3	53.2					9	67.0		57.7	Is. to length beak	28	72.2	64.9	59.2
Is. temp. scap	13	468.2	39.0	36.0	32.3					16	34.3	31.7	29.0	Is. temp. scap	71	36.0	31.0	27.4
Is. to length beak	18	1423.4	85.3	79.0	73.6									Is. to length beak	71	83.0	74.5	66.6

$$21.7 = M_2$$

Pt 16 prox to length tarsus

d	d ²
.9	.81
1.8	3.24
1.8	3.24
1.2	1.44
.6	.36
.7	.49
.1	.01
1.2	1.44
1.5	2.25
.1	.01
.2	.04
.3	.09
1.2	1.44
1.2	1.44
1.1	1.21
1.2	1.44
1.0	1.00
.6	.36
.3	.09
.3	.09
	23.46

$$\sigma^2 M = 400 \left\{ \begin{array}{r} .058 \\ 23.46 \\ 2000 \\ \hline 3460 \end{array} \right.$$

$$\frac{20 N_1}{24 N_2} \times .058 \frac{N_2}{N_1} \times .082$$

$$\begin{array}{r} .833 \\ \times .058 \\ \hline 6664 \\ 4145 \\ \hline .048314 \end{array}$$

$$+ 1.2 \times .082$$

$$\begin{array}{r} 2 \times \\ 96 \\ \hline .0984 \\ .0483 \\ \hline .1467 \end{array}$$

$$M_1 - M_2 = .3$$

$$k = 38 \sqrt{30.0} = d / \sigma d$$

Pt 16 (20 only)
Pt 10

$$= .38 = \sigma d$$

$$M = 19.8$$

dist to length tarsus Pt 16

d	d ²
.2	.40
.2	.40
1.6	2.56
1.1	1.21
.1	.10
.1	.10
1.0	1.00
.5	.25
2.2	4.84
1.7	2.89
.6	.36
.2	.40
1.8	3.24
.6	.36
.1	.10
1.6	2.56
.3	.90
.3	.90
.3	.90
.8	.64
.1	.10
1.8	3.24
	27.45

$$M_{16} - M_{mod} = .5 \text{ mod.}$$

$$\sqrt{\frac{N_1}{N_2} \times 2M_1 + \frac{N_2}{N_1} \times 2M_2}$$

$$\sqrt{.093} = .305 \text{ od Pt 16 mod}$$

$$M_1 - M_2 = .5$$

$$k = 305 \sqrt{8500} = 1950$$

$$P_{10} - P_{16} = 20 - 19.82 = .18$$

$$\sqrt{.082} = .2863 \text{ od Pt 16 Pt 10}$$

$$k = 2863 \sqrt{2000.0} = 20041$$

$$576 \sqrt{27.45} = 2304$$

$$\sqrt{.1131} = .331 \text{ od mod Pt 16}$$

$$M_1 - M_2 \text{ mod Pt 16} = .8$$

$$k = 331 \sqrt{800} = 662$$

shows that mod is further removed from Pt 16 than Pt 10

Y genus Dist

ext

Int. length	ext length		max	mean	min	max	U	min
1333.9 - 11	1378.6 - 11	mod	133.2	122.0	114.7	136.9	126.1	118.4
1960.8 - 16	2026.9 - 16							
3294.7 - 27	3405.5 - 27	for,	129.2	121.2	110.7	134.7	126.2	114.3
122.0	126.1							
27) 3294.7	27) 3405.5							
27	27							
59	70							
54	54							
54	165							
54	162							
	35							

Modern

2430.4 - 20	2287.8 - 18
2410.9 - 20	2502.6 - 20
736.3 - 6	764.5 - 6
5577.6 - 46	5554.9 - 44
121.2	126.2
46) 5577.6	44) 5554.9
46	44
97	115
92	88
57	274
46	264
114	109

Pt 16 vs Pt 10 Length versus age

$$M \text{ Pt } 16 = 98.5 - N_1 = 100 \text{ (pt 100)}$$

$$M \text{ " } 10 = 99.9 - N_2 = 24$$

$$\sum d^2 \text{ Pt } 16 (N_1) = 735.67$$

$$\sum d^2 \text{ Pt } 10 (N_2) = 218.11$$

$$\sigma^2 M_1 (\text{Pt } 16) = .013$$

$$\sigma^2 M_2 (\text{Pt } 10) = .378$$

Formula 2

$$\frac{\sum d^2_1 + \sum d^2_2}{N_1 \times N_2} = \sigma d$$

$$735.67$$

$$N_1 \times N_2 =$$

$$218.11$$

$$100 \times 24 = 2400$$

$$2400 \overline{) 953.78} \quad 1397$$

$$7200$$

$$\sqrt{1397} = .63$$

$$23378$$

$$21600$$

$$17780$$

$$\frac{M_1 - M_2}{\sigma d} = \frac{99.9 - 98.5}{.63} = 2.2$$

$$6.3 \overline{) 140.} \quad (2.2 \text{ d/od})$$

Pt 16

Pt 10

Formula 1

$$\frac{N_1}{N_2} \times \sigma^2 M_1 + \frac{N_2}{N_1} \times \sigma^2 M_2$$

$$\frac{100}{24} = 4.17$$

$$\frac{218.11}{100} = .218$$

$$4.17$$

$$.013$$

$$1251$$

$$2919$$

$$.30441$$

$$.09072$$

$$\sqrt{.39513} = .629$$

$$.24$$

$$.378$$

$$192$$

$$168$$

$$72$$

$$.09072$$

$$6.29 \overline{) 1400.} \quad (2.2 \text{ d/od})$$

Pt 16

Pt 10

w/sq.

$$1258$$

$$1420$$

$$1258$$

$$162$$

above 220 below
14 10
22

✓ 971 ✓ 1936 ✓ 1560 ✓ 1900 ✓ 1441 421

tans 1102 98.6 101.8 102.5 100.2

rib
lun
cayp

234.4 225.5 212.0 225.2 212.7 9.0

204.2 200 182.0 197.0 181.5

75.6 74.1 64.5 69.8 69.0

133.0 121.0 116.8 121.3 116.2

pelvic sac

6.6

furcula 6.6

length clav

acrom

total stem

57.0 61.3 55.3 57.6 59.3

1330 75.6
121.0 74.1
116.8 64.5
121.3 69.8
116.2 69.0
608.3 363.0

57.0
61.3
55.3
57.6
59.3
2905

127
54.5
181.5

127
85.7
212.7
127
55
182

127
107
234

127
98
225.2

127
55.6
205.6

127
73
200

127
99
226

127
77
204

110.2
98.6
101.8
102.5
100.2

5) 513.3
102.6
100.7 25) 25277
101.0
2) 2033
101.1

2014.4
513.3

234.4
225.5
212.0
225.2
212.7

1109.8
4173.0
25) 52828 (211

50
28
28
32

204.2 1
200
182
197
181.5
964.7
3748.6
4713
25
221
200
213
200
13

421.1
5) 1109.8
10
10

1109.8
4173.0
24) 52828 (220.1
48
48

br. stem

length stem

ratio of br & l stem

66.0 br. diam.

114.3

51.2

69.3

114.4

57.6

72.0

123.0

58.4

66.2

114.1

56.8

69.8

121.1

63.5

73.2

130.6

60.6

63.3

111.2

58.2

65.9

114.4

54.7

71.5

123.0

63.0

64.8

126.5

57.3

65.1

113.0

54.5

70.9

121.5

58.8

68.3

120.0

56.6

76.4

120.2

58.7

69.6

115.0

52.2

64.3

110.6

56.0

67.1

122.4

59.6

76.4

121.4

60.5

67.3

117.3

58.5

62.2

113.2

58.0

70.6

120.0

57.6

66.5

117.5

56.0

76.7

130.6

56.9

72.3

138.3

58.6

64.6

114.5

58.2

64.6

138.3

144.0

64.6

114.5

144.0

64.6

114.5

144.0

64.6

114.5

144.0

64.6

114.5

144.0

64.6

114.5

144.0

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114.5

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114.5

144.0

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114.5

144.0

64.6

114.5

144.0

64.6

114.5

144.0

64.6

114.5

144.0

64.6

114.5

144.0

48
60
113

1440.1
290.5
1730.6
150
230
210
206
180

25) 1720.3 (68.8
150
220
200
203

1720.3
353.0
3(68.4
30) 2053
180
253
240
133

25) 2988.1 (119.5
25
48
25
238
225
131
125

2988.1
608.3
30) 3596.4 (119.8
30
59
30
296
270
264

Taurus - Aquila

	Length			No spec.	d/od	d/od	o ² M
	max	mean	min				
modern	108.7	100.4	96.1	24	mod vs Pth6	3.0	.321
Pth 16 ⁽²⁰⁾	107.2	98.5	90.4	195	" " P10	0.598	.073
Pth 10	106.8	99.9	94.6	24	Pth 16 vs P10	2.25	.378
Pth A	103.9	98.9	94.1	17	Pth A vs Pth 16	.34	
					Pth A vs Pth 10	.11	.61
	Prox br. relative to length			No spec.		d/od	
	max	mean	min				
mod	25.1	22.5	20.8	24	mod vs Pth 16	2.4	
Pth 16 ⁽²⁰⁾	23.8	21.7	19.1	20	" " Pth 10	0.7	0.58
Pth 10	24.5	22.0	19.8	27	Pth 16 vs Pth 10	0.8	

	Dist. br. rel. to length			No spec.		d/od	
	max	mean	min				
mod	22.0	20.3	18.4	24	mod vs Pth 16	1.63	.046
Pth 16 ⁽²⁰⁾	22.0	19.8	18.0	24	" " Pth 10	1.05	.047
Pth 10	21.4	20.0	18.4	24	Pth 16 " " "	.70	.035

Total length P/A Mean = 98.1

d	d ²
2.2	4.84
2.1	4.41
4.9	22.09
2.1	4.41
1.2	.40
1.9	3.61
2.9	8.41
1.4	1.96
4.3	18.49
.5	.25
1.5	2.25
.8	.64
5.0	25.00
4.8	23.04

$$\frac{P_{1216} N}{P/A N} = \frac{20}{14} \times .61 + \frac{14}{20} \times .073$$

$$\begin{array}{r} 1.42 \\ 14 \overline{) 20} \\ \underline{14} \\ 60 \\ \underline{56} \\ 40 \end{array}$$

$$\begin{array}{r} .8662 + .511 \\ \hline 1.3772 = 1.17 \end{array} \quad \begin{array}{l} = sd \\ P/A \text{ vs } \\ P_{1216} \end{array}$$

$$\begin{array}{r} 1.42 \\ .61 \\ \hline 1.42 \\ 852 \\ \hline 8662 \end{array}$$

$$\begin{array}{r} .7 \\ 20 \overline{) 14.0} \\ \underline{14} \\ 0 \end{array}$$

$$\begin{array}{r} 98.9 \\ 98.5 \\ \hline .4 \end{array}$$

$$\begin{array}{r} 19.6 \overline{) 119.80} \\ \underline{117.6} \\ 220 \\ \underline{196} \\ 240 \end{array} \quad (.61)$$

$$\begin{array}{r} 1.17 \overline{) 4.00} \\ \underline{3.51} \\ 490 \end{array}$$

$$\frac{\text{mod } N}{A N} = \frac{24}{14} \times .321 + \frac{14}{24} \times .61$$

$$\begin{array}{r} .54891 + .3538 \\ \hline .90271 = .95 \end{array}$$

$$\begin{array}{r} 1.05 \\ 98.1 \overline{) 100.0} \\ \underline{98.1} \\ 190 \end{array}$$

means of length

mod	100.4	>	= .5
10	99.9	>	
A	98.9	>	= 1.0
16	98.5	>	= 1.4

$$\begin{array}{r} \text{mod } 100.4 \\ 16 \overline{) 98.5} \\ \underline{16} \\ 1.9 \end{array}$$

$$\begin{array}{r} \text{mod } 100.4 \\ A \overline{) 98.9} \\ \underline{1.5} \end{array}$$

$$\begin{array}{r} 10 \ 99.9 \\ 10 \ 98.5 \\ \hline 1.4 \end{array}$$

$$\begin{array}{r} 1.71 \\ 14 \overline{) 24} \\ \underline{14} \\ 100 \\ \underline{98} \\ 20 \\ \underline{171} \\ 29 \end{array}$$

differences in means

mod vs 16	= 1.9
mod vs A	= 1.5
10 vs 16	= 1.4
10 vs A	= 1.0
mod vs 10	= .5
A vs 16	= .4

$$\begin{array}{l} d \text{ vs } 16 = 3.0 \\ \text{mod vs } A = 1.05 \\ 10 \text{ vs } 16 = 2.25 \\ \text{mod vs } A = 1.05 \\ 10 \text{ vs } A = .9 \\ \text{mod vs } 10 = .59 \\ A \text{ vs } 16 = .34 \end{array}$$

$$\begin{array}{r} 1.58 \\ 24 \overline{) 14.0} \\ \underline{12.0} \\ 200 \\ \underline{192} \\ 80 \end{array}$$

Agatha
Snell

Oreocetes Meaus from La Brea pits & McK. - compared with modern skulls

	a	b	c	d				
	br gr	br back p.o pure	br back temp scale	d ?	br	ba	cb	da
								db
Modern	63.0	45.6	35.9	40.4	72.4	78.7	64.2	88.9
McK	69.8	47.6	31.6	40.9	69.1	66.9	59.7	85.8
Pt 16	68.2	49.0	31.6	40.5	70.2	66.3	59.5	85.3
Pt 4	67.5	47.4	31.2	40.6	69.8	67.2	60.3	80.3
Pt 3	68.8	47.7	29.8	40.8	69.2	62.5	59.9	84.9
Pt 2	68.9	47.1	31.5	40.8	68.5	66.1	58.8	87.3
pl-67	—	47.8	31.0	40.9	—	64.8	—	84.7
Pt 60	—	47.0	30.0	40.1	—	63.8	—	85.6
Pt 1 (1p)	67.4	45.0	27.0	40.2	66.9	60.0	59.5	84.3
" 9 (1p)	—	47.6	32.2	40.5	—	67.7	—	85.1
Pt 10 (2p)	66.0	47.1	35.7	39.6	71.4	76.0	59.9	84.1
Pt 37 (1p)	60.5	44.0	34.3	38.2	72.7	77.3	63.2	86.8

McKittrick Aquila Cranium

	a	b	c	d					
	gr br 9	Gr back p.o. may 15	Br beh temp screw 16	ht 14	ba 9	15 cb	8 da	13 db	
complete skull #1	69.8	48.5	30.3	40.6	69.5	62.5	58.3	83.7	
#2	69.5	47.5	33.8	41.3	68.4	71.4	59.3	86.8	
#3	67.6	47.8	33.6	42.3	70.8	70.3	62.5	88.3	
#4	—	46.3	30.1	39.3	—	65.3	—	85.0	
cranium only #1	68.4	48.8	31.8	40.4	71.5	65.2	59.1	82.7	
2	74.2	47.5	33.2	—	64.0	69.8	—	—	
3	71.1	49.5	33.1	41.7	69.7	66.9	58.7	84.3	
4	66.0	46.4	31.3	40.2	70.4	71.3	60.3	86.6	
5	—	47.0	30.0	—	—	63.9	—	—	
6	—	47.0	32.2	39.0	—	68.6	—	83.0	
7	—	49.6	31.2	43.2?	—	62.8	—	86.9?	
8	—	49.6	33.4	42.5?	—	64.3	—	85.6?	
9	68.8	46.2	29.0	40.4	67.2	63.0	58.7	87.5	
10	66.3	46.4	30.3	40.3	70.3	64.4	60.7	86.7	
11	—	47.2	32.4	41.6	—	68.8	—	88.3	
13	—	—	—	40.2	—	—	—	—	
14	—	—	31.0	—	—	—	—	—	
M =	69.0	47.4	31.6	40.9	69.1	66.9	59.7	85.8	
9)	6217	27153	15067	5730	96218	510035	477631	1154	
	34	60	44	56	54	90	40	104	
	81	115	26	13	61	103	77	75	
		105	16			90	72	65	
		103	107			135	56	104	

Agave
crinitus

Pt 16 cont'd

463 | 3060
2778
282

La Brea

a b c
gr br bet.
br bark temp
p.o. scars

ba cb da db

B 9624	—	49.2	30.0	40.7	—	61.1	—	83.0
B 9304	—	45.9	—	40.7	—	—	—	88.8
C 4340	—	48.1	—	40.7	—	—	—	84.7
C 3460	—	48.6	—	41.0	—	—	—	84.3
C 1554	—	48.6	32.3	—	—	66.5	—	—
C 4070	—	46.7	29.2	—	—	62.5	—	—
A 9053	—	45.5	28.9	—	—	63.5	—	—

818.3	332.6	120.4	163.1	844.0	657.5	340.8
68.7	951.7	631.4	444.4	69.8	253.6	938.4
	950.8	638.9	690.2		1326.8	
					1339.9	1450.9

M = 68.2 49.0 31.6 40.5 70.2 66.3 59.7 85.3

13) 887.0	223.5	139.0	129.8	91.30	59.203	657.5	2730.1
78	181	132	128	91	284	55	256
107	425	70	184	203	280	107	170
184	423	42	160		244	99	160
30	21	267	27		143	85	101
		264					

Cranium Pit 16 Aquila

max 72.67
M = 66.67
58.4

	a	b	c	d	Ratio	Ratio	Ratio	Ratio		a	b	c	d	Ratio	Ratio	Ratio	Ratio				
	gr br 13	br back of 47 p.o. area	br between temp sears	ht 32	ba 13	cb 44	da 11	db 32		gr br	br back p.o. max	br back temp sears	ht	ba	cb	da	db				
Cranium																					
✓C 4586	—	47.3	29.5	40.5	—	62.4	—	85.7	✓C3414	—	47.0	30.4	40.6?	—	64.7	—	86.3				
✓C 3177	—	50.0	36.3	41.3	—	72.6	—	82.5	✓C1030	—	47.6	31.8	—	—	66.8	—	—				
✓C 3248	—	43.5	30.5	40.0	—	70.2	—	92.0	✓C1807	—	47.0	33.4	40.4	—	71.0	—	86.0				
✓C 1130	—	46.5	30.3	—	—	65.2	—	—	✓C1323	—	45.2	31.4	39.1	—	69.6	—	86.6				
✓B 9719	—	49.1	29.7	—	—	60.5	—	—	✓B8395	—	47.2	34.2	—	—	72.6	—	—				
✓C 3857	—	48.7	30.4	—	—	62.4	—	—	✓C3129	—	47.7	33.5	40.7	—	70.3	—	85.4				
✓C 361	—	47.0	29.6	—	—	62.0	—	—	✓B9339	71.3	49.1	33.0	42.3	68.9	67.2	59.4	86.1?				
✓C 1032	—	46.7	30.3	—	—	64.8	—	—	✓C1420	68.9	49.1	32.4	—	71.3	66.4	—	—				
✓C 615	—	48.3	32.8	41.2	—	68.0	—	85.2	✓C2006	68.7	49.7	34.3	40.7	72.4	69.0	59.3	82.0				
✓C 1117	—	48.4	28.3	40.1	—	58.4	—	82.7	✓C2487	69.1	47.8	32.6	40.6?	69.2	68.1	58.7	84.7				
✓C 3167	68.7	47.5	31.6	—	69.0	66.5	—	—	✓C3041	67.8	46.7	30.0	40.7	68.9	68.0	61.1	87.2				
✓C 4374	—	47.5	35.4	39.4	—	74.5	—	83.4	✓C1416	69.7	47.7	31.0	41.7	68.5	65.0	60.0	87.5				
✓C 1421	—	47.3	31.7	39.5	—	67.1	—	83.5	✓C2054	67.8	48.7	35.3	41.4	71.9	72.4	66.0	85.0				
✓C 4220	—	48.5	34.8	—	—	71.7	—	—	✓C2058	66.4	48.0	30.8	40.6	72.4	64.3	61.3	84.6				
✓C 1883	—	48.2	31.7	40.2	—	66.0	—	83.3	✓C1333	70.0	50.0	31.1	40.6	71.4	62.2	58.0	81.3				
✓B 8604	—	46.5	32.8	40.2	—	70.6	—	86.4	✓B8567	68.8	48.4	31.7	40.8	70.4	65.5	59.4	84.5				
✓B 9446	—	47.6	30.0	40.9	—	63.0	—	85.7	✓C62	65.4	45.1	30.5	39.2	69.0	67.6	60.0	87.0				
B 9822	—	46.1	31.5	41.1	—	68.4	—	88.0	✓C1034	67.4	46.9	31.4	39.9	69.7	67.0	59.3	85.0				
✓C 1883	—	48.2	31.5	—	—	65.5	—	—	✓C596	—	47.2	28.6	40.9	—	60.7	—	87.0				
✓B 9569	—	48.8	32.7	—	—	67.0	—	—	✓C4609	—	47.7	31.3	40.5	—	65.5	—	84.7				
		95.7	65.4	44.6		132.8		93.84		81.83	95.0	65.89	40.7	84.40	138.9	65.95	45.09				

Cranium P. 4 Aquila

max 76.3
N=657
min 59.8

[illegible]

Aquila cranius - La Brea

Pt 1	a gr br	b br back p.o. pious	c br br temp scars	d br					Pt 2		a gr br	b br back p.o. pious	c br br temp scars	d br						
03171	67.4	45.0	27.0	40.2	66.9	60.0	59.5	89.3	F3170	—	47.4	32.2	40.5	—	67.7	—	85.1			
Pt 2 Pt 1																				
03506	—	48.2	29.8	—	—	61.9	—		4829	71.7	48.7	32.6	42.1	68.7	66.8	59.3	86.4			
03708	—	45.9	32.2	41.8	—	68.7	—	91.3	06740	—	47.0	29.8	—	—	63.4	—	—			
03405	70.1	47.5	33.3	41.6	67.7	70.1	59.3	87.5	04766	—	47.8	30.8	39.8	—	64.7	—	83.0			
03461	67.0	46.1	30.7	40.3	68.8	66.7	60.0	87.4	M = 47.8 31.0 40.9 1143.5 193.2 581.9 1194.6 1169.4											
03440	69.6	47.9	30.4	39.8	69.0	63.5	57.1	83.1												
M	68.9	47.1	31.5	40.8	68.5	66.1	58.8	87.3	04977	69.1	48.8	22.1	41.5	71.0	55.4	60.0	85.0			
3) 2067	2356	1564	1635	1205	13309	11764	8493													
Pt 3 Pt 1																				
02634	—	49.0	30.7	40.3	—	62.7	—	82.2	4529	—	47.8	31.7	41.0	—	65.8	—	85.7			
01821	—	48.7	30.8	—	—	63.3	—	—	4135	—	47.7	30.1	—	—	63.0	—	—			
02451	70.1	47.1	31.7	—	67.2	67.4	—	—	4553	—	46.1	29.1	39.4	—	63.2	—	85.5			
02412	66.8	47.0	29.4	40.0	70.3	62.6	59.8	85.2	4370	—	45.6	31.2	—	—	68.4	—	—			
01805	69.2	49.1	30.2	42.2	71.0	61.5	61.0	85.8	4055	69.3	45.8	28.1	41.0	69.3	58.7	59.2	85.6			
01327	69.4	47.4	27.5	40.9	68.4	58.0	59.0	86.4	04958	—	47.3	30.0	—	—	63.6	—	—			
02624	—	45.5	28.2	—	—	62.0	—	—												
M	68.8	47.7	29.8	40.8	69.2	62.5	59.9	84.9	M	47.0	30.0	40.4			63.8		85.6			
1) 2755	3338	208.5	1163.4	1276.9	1437.5	1179.8	139.6		6) 282.3	11802	11214				3827		2568			

Ratio for at lamp.
to be at proper
equivalent
mod. db dim

d d²

73.6	-5.4	29.1
73.7	-5.3	28.1
76.0	-3.0	9.0
76.4	-2.6	6.7
76.7	-2.3	5.3
77.3	-1.7	2.9
77.6	-1.4	1.9
77.7	-1.3	1.6
78.7	-1.3	.9
79.0	0	0
80.7	1.7	2.9
81.7	2.7	7.2
82.3	3.3	10.9
82.8	3.0	9.0
82.5	3.5	12.2
83.5	4.5	20.2
85.3	6.3	39.6

M 79.0
N = 18
σ = 3.23

$$\sigma = \sqrt{\frac{188.4}{18}} = \sqrt{10.47} = 3.23$$

$$18 \overline{) 188.4}$$

$$\begin{array}{r} 10.47 \\ 18 \overline{) 188.4} \\ \underline{18} \\ 84 \\ \underline{72} \\ 120 \\ \underline{126} \end{array}$$

$$\begin{array}{r} 3.18 \\ 3.18 \\ \underline{2544} \\ 318 \\ 954 \\ \underline{10122} \end{array}$$

$$\begin{array}{r} 3.2 \\ 3.2 \\ \underline{64} \\ 96 \\ 10,24 \\ \underline{10,496} \end{array}$$

$$18 \overline{) 3.23}$$

$$\begin{array}{r} 424 \overline{) 3.23} \\ \underline{2968} \\ 2620 \end{array}$$

Ratio
ht d be.

d

62.6	1.7	2.9
62.6	1.7	2.9
62.7	1.6	2.8
63.2	1.3	1.7
63.2	1.1	1.2
63.4	.9	.81
63.6	.7	.49
64.3	0	0
64.3	0	0
64.4	.1	.1
64.9	.8	.36
64.9	.6	.36
65.0	.7	.49
65.7	1.4	1.96
65.9	1.6	2.56
66.4	2.1	4.41
66.4	2.1	4.41

M 64.3
N = 17

$$\frac{\sum d^2}{N} = \frac{1.64 \times 10}{17}$$

$$17 \overline{) 278.5}$$

$$\begin{array}{r} 16 \\ \underline{102} \\ 1765 \end{array}$$

$$\sqrt{1.64} = 1.28$$

5.3
190
190

M 79.0
N=18

M - 66.6
N=71

shells M=66.5
N=15

Pit 10

N=2

5.75 0.2 M, mod

Mod.
temp. area
rel. 500 base
70 190 190

Mod.

La Brea

mark

mod.

324 $\overline{)186.28}$
162 0
24 28
226 8
1600

$\frac{18}{71} \times 5.75 + \frac{71}{18} \times .20$

od = .94

79 - 66.6

94

$d/od = 1.13$

5041 $\overline{)1016.15}$
1008 2
790

	d	d ²	fd ²	d	d ²	fd ²
55	11.0	121				
56						
57						
58	8.0	64	64.50			
59	6.8	42.25	84.50			
60	6.0	36	108.0			
61	5.5	25	50.0			
62	4.5	16	32.0			
63	3.5	9	12.25			
64	2.5	4	6.25			
65	1.5	1	3.0			
66	0.5	0.25	1.50			
67	0.5	0.25	1.50			
68	1.5	2.25	6.75			
69	2.5	6.25	12.50			
70	3.5	12.25	21.00			
71	4.5	19.25	32.00			
72	5.5	25	42.25			
73	6.5	36	50.00			
74	7.5	42.25	56.25			

	d	fd ²
75		
76	2.6	6.76
77	1.7	2.89
78	1.3	1.69
79	0	0
80	1.7	2.89
81	2.7	7.29
82	3.3	10.89
83	4.5	20.25
84		
85	6.3	39.69

130.03
56.25
186.28

$$\begin{array}{r} 6 \\ 39 \overline{) 2641.2} \\ \underline{234} \\ 307 \end{array}$$

$$\begin{array}{r} 66.67 \\ 39 \overline{) 2600.2} \\ \underline{234} \\ 260 \\ \underline{234} \\ 262 \end{array}$$

$$1549.3 \quad 65.7$$

$$27 \overline{) 1774.3}$$

$$\begin{array}{r} 162 \\ \underline{154} \\ 135 \\ \underline{135} \\ 0 \end{array}$$

$$65.7$$

$$27 \overline{) 1774.3}$$

$$\begin{array}{r} 162 \\ \underline{154} \\ 135 \\ \underline{135} \\ 0 \end{array}$$

$$198$$

$$189$$

Aquila skulls & beaks
La Brea, old & modern compared (see later sheet)

See last
sheet

Modern					Mak					La Brea					
	#	max	mean	min		#	max	mean	min		#	max	mean	min	
Length cran.	13	74.2		67.9		4	78.1		65.6		18	76.4	73.1	70.0	
Gp. br. cran	13	66.9	63.1	61.3		10	74.2	68.5	63.9		31	71.2	67.9	63.7	
br at p ^{ro} p ^{er}	13	47.0	45.4	42.9		17	49.6	47.7	43.7		90	50.0	46.7	42.9	
bet temp ear	13	39.0	36.0	33.2		17	33.4	31.5	29.0		* 90	36.3	31.3	27.1	
ht cran	12	42.0	40.3	38.8		14	43.2	40.9	39.0		same 19	41.8	40.5	39.0	
ratio g b l ^y t	13	92.9		86.7		3	93.2%		87.5%		o'lay 20	95.4		91.7	
" temp & blood	13	85.3		76.0		15	71.4	66.5	62.5*		* 90	74.5	66.2	58.3*	
" ht to br	12	65.0		62.6		8	62.5		58.3*		- * 20	61.5		58.7*	
" br to g b r.		74.7		71.7		9	71.5	69.1	64.0		o'lay 20	72.4		61.3	
br lacry.	13	27.4		23.0		4	25.8		23.7		15	29.5		23.8	
ret temp ear ht	12	98.4		86.5					3.7		* 19	85.3		77.7	
Length back	13	36.3	32.7	30.3		10	37.5	35.3	30.5?		43	38.8	34.3	29.5	
ant meas						7	21.5	20.4	19.1		o'lay - *	49	22.7	20.3	18.0
br. back	12	18.3	16.9	15.7		6	27.8		23.4						
post. meas															
br. back	4	23.2		20.0		11	23.0	21.5	20.3		50	23.0	21.1	18.3	
ht. back	12	20.3		18.2							o'lay - *	42	63.1	58.9	54.2
Ratio ant to body ht	12	55.5%	51.8%	49.6%		6	64.1	59.1	55.2		42	68.3	61.0	55.5	
Ratio ht to length	12	62.7	58.3	53.2		10	67.0	61.2	57.7						
Ratio br to ht	12	94.8	87.9	84.6		7	102.0	95.1	88.7		o'lay 48	105.0	96.1	88.3	
Cran.															
Ratio ht to br back p.o. fur.		93.4		83.3			88.3		82.7						

Quinta shells - MacK. Rich

	gr br	br temp scars	br back pro: por.	br lac	leg TL	ht z	leg br beak	br beak below nares (mm)	br beak at level of meat	br beak at level x level	ba	da
shull no. 125.1	67.6	33.6	47.8	24.9	75.0	42.3	35.7	21.0	26.0	20.6	55.0	55.8
shull no. 118.1	69.6	33.8	47.5	24.3	—	41.3	35.0	21.0	—	21.3	55.0	57.8
shull no. 118.6	69.8	30.3	48.5	25.8	74.5	40.6	37.4	20.7	27.8	22.3		
shull no. 119.0?	—	30.1	46.3	25.0	74.1	39.3	36.6	20.6	—	22.2		
①	68.4	31.5	48.8	25.5	78.1	40.4						
③	71.1	33.1	49.5	—	—	41.7						
④	66.0	31.3	46.4	—	—	40.2						
⑩	66.3	30.3	46.4	—	—	40.3						
②	74.2	33.2	47.5	—	—	—						
⑤	—	30.0	47.0	—	—	—						
⑨	68.8	29.0	46.2	—	—	40.4						
⑥	—	32.2	47.0	—	—	39.0						
⑫	63.9	—	43.7	23.7	65.6	40.2	35.3	21.0	22.7	20.0	60.0	60.0
⑪	—	32.4	47.2	—	—	41.6	31.2	21.0	23.5	21.0	60.0	60.0
? ⑧	—	39.3	49.6	—	—	42.5	36.6	21.2	20.5	22.0	#2	59.8
⑬	—	—	—	—	—	40.0	37.4	—	—	23.0	#4	
⑭	—	31.0	—	—	—	—	—	—	—	22.7	60.7	60.8
⑦	—	31.2	49.6	—	—	43.2	31.9	20.3	23.4	21.2	#3	—
						✓	37.0	—	—	21.5	#1	60.0
						✓	36.7	—	—	21.4	#5	59.7
						✓	37.0	21.3	26.2	21.3	#6	61.2

temp br,
34.0

Rich

da
477.0
59.6
Total
8448.9
60.7

C4477
~~F2119~~
 F2130
~~D440~~

A. cluys. Beaks continued

copied

	C6037	C1609	C8403	C9001	D2453	D0120	B9377	C81	D794	C8777	C5755	C8014	C2089	D4635	D2911	C4424	C5502	C9069	D4760
length a	32.3	31.8	33.2	29.0	31.1	29.7	31.9	32.8	33.5	35.0	34.6	27.5	18.7	34.0	30.1	34.0	33.2	35.2	29.9
ht at cere	21.2	22.7	22.5	20.7	22.4	20.0 ^x	20.5	22.2	20.7	22.6	22.3	20.0	19.8	21.9	20.1 ⁷	22.5	20.7	22.6	19.9
br below cere	21.2	22.0	21.4	20.8	23.2	20.3 ^x	20.5	21.6	20.0	22.4	22.2	18.5	18.3	21.3	18.8	20.7	20.5	21.9 ⁷	19.8
length min	—	18.8	—	—	17.9	16.2	—	17.0	17.1	16.4	17.1	—	—	17.4	17.3	—	17.5	—	—
ca	65.4	71.4	67.7	71.4	65.4	66.4	65.3	67.7	61.8	65.2	67.0	72.7							
ea	65.6	69.3	64.9	71.7	68.2	71.0	65.3	65.8	59.7	64.1	67.2	67.3							
ec	100	97	95	100	107	101	100	97.5	97.6	100	103	92.5	92.4	97.4	90.2	92.2	99.2	97.0	99.5
height to tip	X 32.0	32.0	34.5	31.6	—	33.1 ⁹	31.5	32.1	33.8	34.9	36.0	28.6	29.0	33.8	29.0	34.0	34.3	35.7	30.0
cx	66.3	71.0	65.2	65.5	—	65.2	68.2	61.3	65.4	62.0	70.0	68.4	64.7	68.7	66.3	60.5	63.3	66.4	
ex	66.3	68.7	62.0	66.7	—	67.7	65.2	67.3	59.1	64.3	64.5	64.6	63.1	63.0	60.5	60.7	59.7	61.3	66.6

	Rec.	Forst
ex ht to length	65.0 62.3	74.0 60.4
ex br to length	56.8 50.3	68.7 59.1
ex br to height	87.6 85.5	103 90.1
length	35.7 28.0	36.0 27.7
br	18.0 15.9	23.2 18.5
ht	20.0 18.2	23.3 19.3

ht cran - area in part of basin. to crown (head)

Shull, Anita Shy, La Brea

	C2057	C1094	C1414	C2781	D4766	D3761	C9076	B8564	D619	D237	K3544	C3041	D1154	C62	C2054	C6485	D3440	D2412	C1333	D3405
op. br	66.4	67.4	69.3	65.1	67.3	66.8	69.0	68.6	64.7	67.4	67.8	67.8	66.6	65.4	67.7	66.2	69.6	66.7	70.0	70.1
back p. pin	48.0	46.9	47.7	47.0	47.8	46.1	48.5	48.4	45.8	45.4	46.6	46.7	48.2	45.1	49.0	47.3	47.9	46.5	50.0	47.5
bat c	26.7	24.1		26.1	28.2	29.5	26.5	26.5		25.9										
length cran	74.6	72.3	73.7	72.6	70.7	74.0	74.8	73.1		69.8		72.5	73.8	71.2	76.5	72.8	72.7	72.5	73.6	74.0
ht. cran.	40.4	39.5	41.2	39.3	40.3	39.7	41.3	40.6		39.0	40.2	41.0	40.6	38.8	40.6	39.3	39.7	39.2	40.0	41.5
ear	60.9	58.6	59.4	60.4	59.9	59.4	59.7	59.2		57.2	59.3	60.5	61.0	59.3	60.0	59.4	57.1	58.7	57.2	59.3
ca	72.2	69.6	64.0	72.3	71.2	68.9	70.3	70.5		67.4										
bb	84.3	84.3	86.3	83.7	84.2	86.1	85.1	83.7		84.5	86.8									
band bet. post. pin	6.0	4.4	5.3	5.6		6.4	5.8	6.4	5.2	6.0	4.6									
length temporal	20.8	21.0	20.6	20.1	20.4	20.9	22.5	21.0	18.8	20.4	20.1									
length temporal	28.0	27.8	27.5	22.9	26.5	27.2	27.7	27.5	26.8	27.0	24.9									
length temporal	21.3	21.7	21.3	20.1			24.0		20.2	22.0	19.1									
length temporal	28.6	28.4	29.3	28.3	29.0	27.8	29.6	28.2	28.3	27.1	28.2									
fb	57.5	60.6	61.4	60.3	60.6	60.3	61.1	58.3	62.7	59.7	60.5									
ad	88.8	93.3	93.8	94.6					96.4											
ed	54.2	54.6	55.8	54.2	56.8	53.6	55.2	54.0		55.0		56.6	55.0	54.5	53.0	54.0	54.5	54.1	54.3	56.0
dist. bet. temporal	45.7	46.0	44.4	49.2	45.0	45.0	44.4	46.2	43.1	47.3	45.4	47.8	46.0	45.6	47.8	43.6	44.7	46.6	47.5	
dist. bet. temporal	30.3	31.0	30.7	32.0	30.3	30.1	34.1	31.7	28.7	27.8	30.8	31.9	30.1	35.0	31.7	30.4	29.8	31.1	33.3	
xb	63.3	66.3	64.4	68.1	62.1	65.2	70.3	65.4	61.2	61.3	78.3	66.0	66.3	66.7	71.4	67.2	63.5	64.2	62.3	70.2
br. or. y	46.5	43.7	45.8	46.3		45.2		47.6		42.1	45.5	44.5		43.0	48.7	46.0	44.1	44.0	48.2	46.5
dist. bet. or. prev.	29.2	28.0	29.0	27.8		29.9		30.0		28.3	26.7	29.0		27.5	30.0	28.8	28.6	28.9	30.0	30.2
zy	62.8	64.0	63.3	60.1		66.3		63.1		67.5	58.7	65.3		64.0	61.6	62.6	64.7	65.7	62.3	65

Length cran. from hump to occip. suture at bulge.

Shells *Aquila chrysaetos*
meas. of skulls on skins max 68.2 - 60.0? gbr.

MODERN SKULLS AQUILA

L.H. Miller coll.

1073 468 827 241 923 1420 1407 679 900 421 927 1442 926 975

a														
gbr.	66.9	62.0	62.3	61.0	62.4	62.4	61.9	61.9	64.3	63.6	64.9	62.8	63.6	64.5
br. back of head	42.0	45.4	46.0	45.7	44.7	45.4	42.9	44.7	45.2	46.4?	46.5	44.3	46.4	48.9
br. at lacrymal	27.1	23.6	23.7	24.7	25.0	24.9	23.6	23.3	23.8	24.5	24.2	24.8	25.3	23.7
length cran	74.2	69.4	70.0	69.9	68.5	69.1	69.6	69.0	69.2	72.2	71.1	72.5	70.3	73.4
ht. cran.	41.7	40.7	39.6	39.1	40.1	41.0	38.8	39.2	40.3	—	40.9	40.7	40.8	40.7

ea 62.570 65.770 63.670 64.270

be 70.3 73.3 73.9 75.1

eb 85.8 89.7 86.0 85.5

dist. between proper. & preoperc. 4.4 4.3 5.1 4.3

dist. from tip of mandible to post. op. 21.0 19.7 19.3 18.1

length of scap. 25.6 25.3 24.0 21.7

br. temporal scar 21.5 20.1 19.4 15.8

depth brain case 30.8 24.4 28.5 28.2

fb 65.6 64.7 61.9 61.6

ad 90.3 89.4 89.0 89.8

ed 56.3 58.7 56.4 57.6

dist. between hump & occip. 35.4 34.5 34.7 38.9 34.7 35.3 35.2 34.0 34.5 36.7 38.8 36.2 38.2 38.5

Xlo 75.3 76.1 75.5 85.1 77.5 77.7 82.0 76.0 76.5 79 85.6 81.7 82.4

br. bet. 4 45.2 45.7 44.5 42.5

br. bet. 3 28.0 25.2 25.8 25.1

34 62.2 55.2 58.1 59.2

Copied meas but not gbr

eg. skulls La Brea cont'd

~~1972?~~

Recent										fossil		D234 C1034 dino type 12?					
										max	mean	min	max	mean	min.		
✓ D1158 C9921																	
(70.7) 67.7	67.7									66.9	63.0	61.0	70.7	68.0	63.7	br. across p.o. processes	67.4 67.3
48.2 48.3	48.3									47.0	45.4	44.3	50.0	47.4	42.9	br. back of "	45.5 42.0
31.0 dist bet temp scars										38.9	36.0	34.0	36.0	31.0	27.4	dist bet temp scars	58.2 31.0
74.2 -										74.2	70.3	67.9	76.0	73.2	69.8	length of brain (cranium)	70.0 72.5
(42.0) 41.0	41.0									41.7	40.2	38.8	42.8	40.2	38.0?	ht. cranium	39.4 40.0
54.4 60.5	60.5									65.7	64.0	62.5	66.0	59.4	57.1	ht. cran rel. to br across p.o. processes (ea)	
923 1420 1107 679 900 421 927 1442 926																	
62.4 62.4 61.9 61.9 64.3 63.6 64.9 62.8 63.6																	
34.7 35.3 35.2 34.0 34.5 36.7 38.8 36.2 38.2																	
44.7 45.4 42.9 44.7 45.2 46.4? 46.5 44.3 46.4																	
68.5 69.1 69.6 69.0 69.2 72.2 71.1 72.5 70.3																	
40.1 41.0 38.8 39.2 40.3 - 40.9 40.7 40.8																	
25 24.9 23.6 23.3 23.8 24.5 24.2 24.8 25.3																	
16.8 16.4 18.3 15.8 12.6 - 17.6 17.1 16.1																	
30.3 31.8 34.4 31.0 35.3 34.0 33.0 34.4 31.7																	
19.0 18.2 19.3 18.3 19.5 - 20.3 20.2 18.9																	
56.6 42.4 40.0 45.9																	
30.0 31.1										38.9	36.8	34.0	36.0	31.0	27.8	dist. bet. temporal scars	
42.3 64.4										85.1	78.0	75.3	71.4	65.3	61.2	distance bet temporal scars rel. to br. cranium (back p.o. process)	
47.8 44.8										45.7	44.5	42.5	48.7	45.5	42.1	op. br. occiput	
- 27.3										25.1	26.0	28.0	30.2	28.9	27.3	br. bet. occiput processes (inframaxilla)	
60.9										62.2	58.7	55.2	67.3	63.6	60.1		

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Reint Bbs - Aguila Crania

= overlap Recent

Mex Thrush skull - Regilla

		a	b	c	d	e	f	g	R	R	R		a	b	b'	d					
		Total length	crani br	br bet temp scars	br back of p.o. process	br lac	length cran.	ht cran.	Ratio bf	Ratio cd	Ratio glb	ratio dlb	length beak	br beak below nares	br beak patib	ht beak	ratio ba	ratio da	ratio be	gc gt	
complete																					
1/0 #1		118.6	69.8	30.3	48.3	25.8	74.5	40.6	93.7%	62.5%	58.3%	69.5%	37.5	21.5	27.8	22.3	57.5%	59.7%	93.0%	83.7	
1/0 #2		118.4?	69.8	33.8	47.5	24.3	—	41.3	—	71.4	59.3	68.4	35.0	—	—	21.3?	—	60.9	—	86.8	
0/1 #3		125.1	67.6	33.6	47.8	24.9	75.7	42.3	89.4	70.3	62.5	70.8	35.7	21.0	26.7	20.6	58.8	57.7	102.0	88.3	
#4		119.0	—	30.1	46.3	23.0	74.1	39.3	—	65.3	—	—	35.6	19.6	—	22.2	55.2	62.4	88.4	85.0	
cranium																					
1/0 #1		—	68.4	31.8	48.8	25.5	78.1	40.4	87.5	65.2	59.1	(71.5)	#1	37.2	—	21.5	—	57.8	—	82.7	
0/0? #2		—	74.2	33.2	47.5	—	—	—	—	69.8	—	(64.0)	#2	36.6	20.7	25.5	22.0	56.5	60.2	94.2	84.3
1/0 #3		—	71.1	33.1	49.5	—	—	41.7	—	66.9	58.7	69.7	#3	31.7	20.0	23.4	21.2	64.1	67.0	94.5	84.3
3/0 #4		—	66.0	31.3	46.4	—	—	40.2	—	74.3	60.8	70.4	#4	37.4	—	23.0	—	61.5	—	86.6	
1/0? #5		—	—	30.0	47.0	—	—	—	—	68.9	—	—	#5	36.7	—	21.4	—	58.4	—	83.0	
1/1 #6		—	—	32.2	47.0	—	—	39.0	—	68.6	—	—	#6	—	21.3	26.2?	21.3	—	—	100.0	83.0
0? #7		—	—	31.2	49.6	—	—	45.2?	—	62.8	—	—	#7	30.5?	19.1	24.0?	20.3	62.7	66.5	94.2	86.9?
0/0? #8		—	—	33.4	49.6	—	—	42.3?	—	69.3	—	—									85.6?
2/0 #9		—	68.8	29.0	46.2	—	—	40.4	—	63.0	58.7	67.2	35.39	14.32		11.237.1	6.3548	6.121	7.6663	87.5	
3/0 #10		—	66.3	30.3	46.4	—	—	40.3	—	64.4	60.7	70.3	35.3	20.4		21.5	59.1	41.2	95.1	86.7	
1/0? #11		—	—	32.4	47.2	—	—	41.6	—	68.8	—	—									88.3
? #12		—	63.9	29.8	45.7	23.7	65.6	40.2	97.3	—	—	—									13.1115.4
#13		—	—	—	—	—	—	40.2	—	—	—	—									85.8
#14		—	—	31.0	—	—	—	—	—	—	—	—									

31.7
10) 68.5
68.5
27
18.4

40.9
14) 57.3
56
130
126

46.5
15) 100.85
90.3
103
10.5

69.1
9) 621.8
54
81

for gran

66.8	69.2
70.1	69.3
67.5	71.0
69.0	68.5
66.8	66.6
67.8	68.7
66.2	68.7
69.3	69.4
66.8	63.7
67.7	70.3
65.5	69.5
66.4	
67.7	
64.7	
70.0	
68.6	
67.4	
65.4	
67.4	
69.4	

11 7549
 13309
 31) 2105.6 (68.2
 186
 255
 248
 76

20135397

13) 11205(63,1
 108
 40
 24
 16

100/2
 20/2

Aquila (foasil) complete skulls

total length of	114.	120.5	124	113.5	
length beak from tip	56.5	55 +	60 ?	54.3	
gr. crown	62.4	67.4	68.6	65.4	69.6
br beak	20.0	19.1	19.7	18.5	22.7
	—	24.3	—	22.7	
ht crown	39	39.5	40.6	38.8	39.7
ht beak	20.6	21.8	20. +	19.7	25.0

- ~~Aquila~~ beaks (La Brea)

tail length	max	mean	min	OK
br.	36.3		29.2	
br.	22.7		18.3	
br.	22.9		19.6	

[illegible]

Modern Aquila Skulls

	a	b	c	d				
	gr br	br back p. o. pro	br back temp rows	ht	ba	eb	da	db
	20	20	20	19	20	20	19	19
L.A.M 241 ^x	61.3	45.7	39.0	39.7	74.7	85.3	64.9	86.7
827	62.5	45.6	35.0	40.2	73.0	76.7	64.3	88.0
468	62.0	45.5	35.2	40.3	73.4	77.3	65.0	88.5
♀ 1073	66.9	47.0	37.0	41.8	70.3	78.7	62.6	89.1
♂ 1760	61.9	45.1	33.1	40.1	73.6	73.4	64.7	88.9
♀ 1791	63.4	45.8	35.7	39.2	72.3	77.8	61.9	85.5
L.H. Miller 923	62.4	44.7	34.7	40.1	71.7	77.6	64.4	90.9
✓ 1420	62.4	45.4	35.3	41.0	72.7	77.7	65.7	90.3
✓ 1407	61.9	42.9	34.2	38.8	69.4	79.6 82.0	62.7	90.4
♂ ✓ 679	61.9	44.7	32.8 33.2	39.2	72.3	73.4 76.0	63.4	89.6
✓ 900	64.3	48.2	34.5	40.3	70.3	76.4	62.6	89.3
♀ 421	63.6	46.4	36.7	—	73.0	79.0	—	—
✓ 927	64.9	46.5	38.8	40.9	70.5	83.5	63.0	88.0
✓ 1442	62.8	44.3	36.2	40.7	70.5	81.7	64.9	92.2
✓ 926	63.6	46.4	38.2	40.8	73.0	82.3	64.3	90.1
✓ 975	64.5	48.7	36.8 38.5	40.7	75.8	74.0 78.7	63.2	83.3
✓ 1438	64.5	43.8	32.3	41.0	68.2	73.6	63.6	93.4
✓ 1560	62.4	46.8	34.5	41.4	75.2	73.7	66.4	88.3
♀ ✓ 1900	61.6	45.7	37.7	40.5	75.0	82.5	66.4	88.6
✓ 1441	62.9	45.9	37.0	41.4	73.0	80.7	65.9	90.3
♂ ✓ 486		41.9	32.8					

a b c d $\begin{matrix} \swarrow \\ \downarrow \\ \searrow \end{matrix}$ cb da db) ba

M 63.0 45.6 35.9 40.4 78.7 69.2 88.9 72.4

20 $\overline{)12611}$ $\overline{)9124}$ $\overline{)7178}$ $\overline{)2681}$ $\overline{)15746}$ $\overline{)11299}$ $\overline{)16894}$ $\overline{)11479}$

120 80 60 76 140 114 152 140

$\overline{)61}$ $\overline{)112}$ $\overline{)117}$ $\overline{)81}$ $\overline{)174}$ $\overline{)79}$ $\overline{)169}$ $\overline{)47}$

60 100 100 81 160 79 152 40

$\overline{)11}$ $\overline{)124}$ $\overline{)178}$ $\overline{)146}$ $\overline{)76}$ $\overline{)139}$ $\overline{)174}$ $\overline{)79}$

 revised 35.6 revised 78.7

21 $\overline{)7483}$ 20 $\overline{)7749}$

63 118 140 174

$\overline{)105}$ $\overline{)174}$ $\overline{)160}$

133 174 174

126 171 171

N=21

P-16 - Aquila Beak

d d2

	a length	b talon nause	lit same	59.5 lea	69.3 ca	88.3 be	94.8 ba	
C 3257	32.07	19.8	22.2	61.9 62.5	69.3	88.3	1.4	1.96
F 3111	32.3	18.3	20.03	56.7	62.0	91.6	2.8	7.84
C 1394	34.5	20.5	20.8	59.5	60.4	98.6	—	—
C 2089	31.9	18.7	19.7	58.7	61.7	95.0	1.8	1.64
F 3091	35.2	20.5	21.6	58.3	61.4	95.0	1.2	1.44
F 3105	35.4	21.5	22.0	60.7	62.3	97.8	1.2	1.44
B 9377	35.0	19.5	20.0	55.8	57.3	95.5	3.7	13.69
C 5071	32.8	18.6	19.9	56.7	60.8	93.6	2.8	7.84
C 4424	36.3	20.6	22.8	56.7	62.7	90.5	2.8	7.84
C 2391	29.5	18.2	19.8	61.8	67.2	92.0	2.3	5.29
F 3064	33.0	18.8	20.4	57.0	61.9	92.2	2.5	6.25
C 81	36.7	20.6	22.5	56.2	61.4	91.5	3.3	10.89
C 1231	33.2	20.0	21.2	60.3	63.9	94.4	1.8	1.64
C 1570	33.7	20.3	21.6	60.3	64.1	93.5	1.8	1.64
C 4944	31.1	19.4	20.0	62.5	64.3	97.0	3.0	9.00
F 3109	31.8	19.6	20.1	61.7	63.3	92.5	2.2	4.84
S 9064	33.0	20.2	21.0	61.3	63.6	96.3	1.8	3.24
F 3096	36.0	22.7	21.5	63.1	59.7	105.0	3.6	12.96
C 1609	35.0	21.9	22.7	62.4	65.0	96.5	3.1	9.61
F 3090	—	20.8	22.7	—	—	91.6	—	—
F 3095	—	21.7	22.0	—	—	97.4	—	—

107.118
106.05

$$\begin{array}{r}
 33.6 \\
 19 \overline{) 638.4} \\
 \underline{57} \\
 68 \\
 \underline{57} \\
 114 \\
 \underline{114} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 20.1 \\
 21 \overline{) 422.2} \\
 \underline{42} \\
 02
 \end{array}
 \quad
 \begin{array}{r}
 21.1 \\
 21 \overline{) 444.5} \\
 \underline{42} \\
 24 \\
 \underline{21} \\
 35
 \end{array}
 \quad
 \begin{array}{r}
 59.5 \\
 19 \overline{) 1132.94} \\
 \underline{95} \\
 182 \\
 \underline{171} \\
 114 \\
 \underline{114} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 62.7 \\
 19 \overline{) 1192.3} \\
 \underline{114} \\
 52 \\
 \underline{38} \\
 143 \\
 \underline{133} \\
 10
 \end{array}
 \quad
 \begin{array}{r}
 94.8 \\
 21 \overline{) 990.8} \\
 \underline{189} \\
 100 \\
 \underline{84} \\
 168 \\
 \underline{148} \\
 20
 \end{array}$$

22
21
43

Aguila Real - La Brea

Pt 61

	a	b	c	ba	ca	bc
D 4760	31.5	18.2	20.0	57.8	63.5	91.0

Pt 47

D 6636	32.2	21.2	22.3	57.0	60.0	95.2
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Pt 2

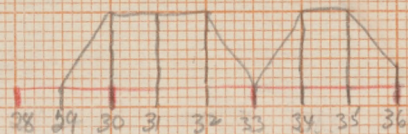
D 3453	—	22.0	22.0			97.4
D 3218	32.7	18.0	14.4	55.2	59.4	92.7

Pt 3

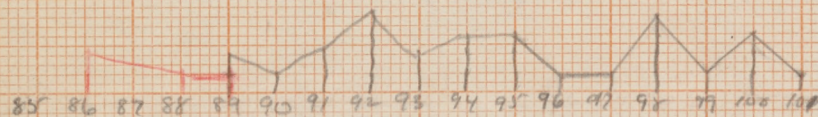
D 2911	31.8	18.7?	20.7?	58.8?	65?	90.5
D 1720	32.2	20.0	20.0	63.3	62.3	100.0

Pt 10

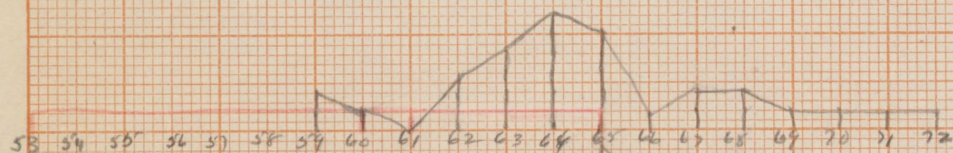
F 3130	34.8	—	21.6?
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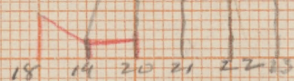
Length Beak - Aquila



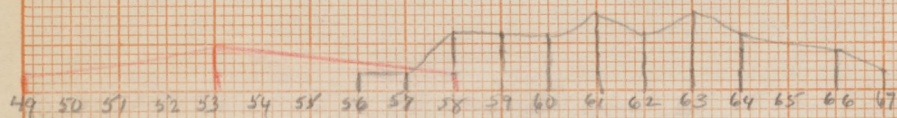
Width & Height Beak, Aquila



Height & Length of Beak, Aquila



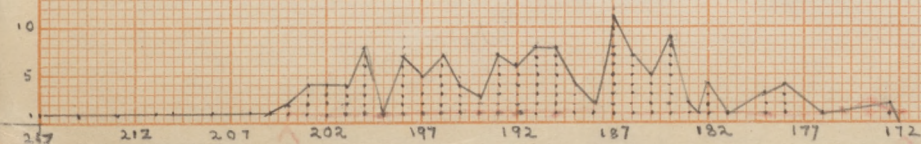
Height Beak - Aquila



Breadth relative to length (beak, Aquila)

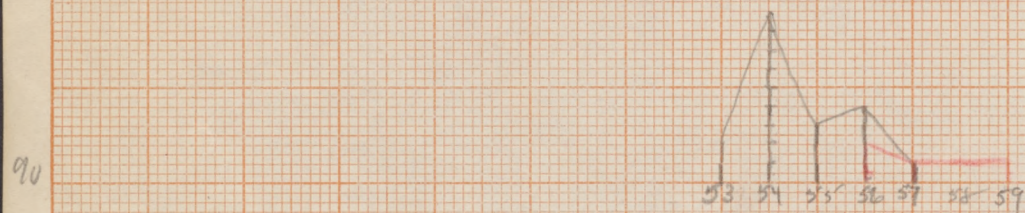


LaBua - Breadth Beak Aquila

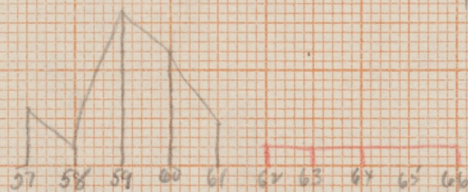


all Pleistocene Aquila humeri

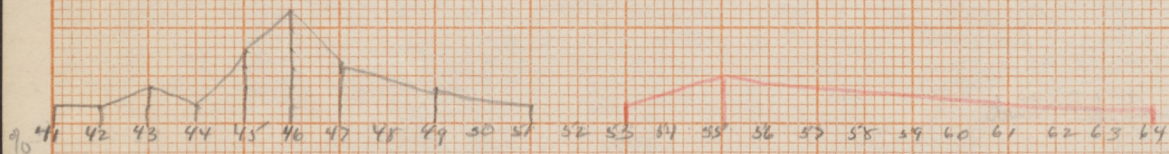
red = modern



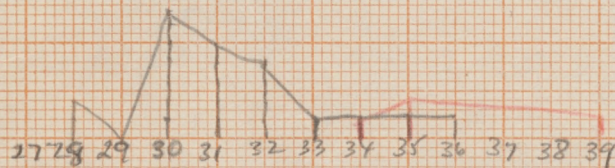
ht. cranium rel. to length of cranium - Agouti



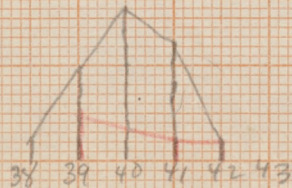
ht. cranium rel. to gr. br. cran. - Agouti



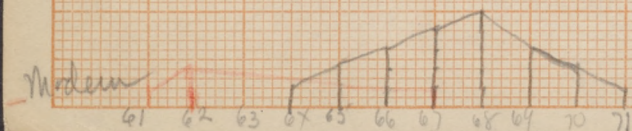
dist. bet. temp. scars rel. to gr. br. cran. - Agouti



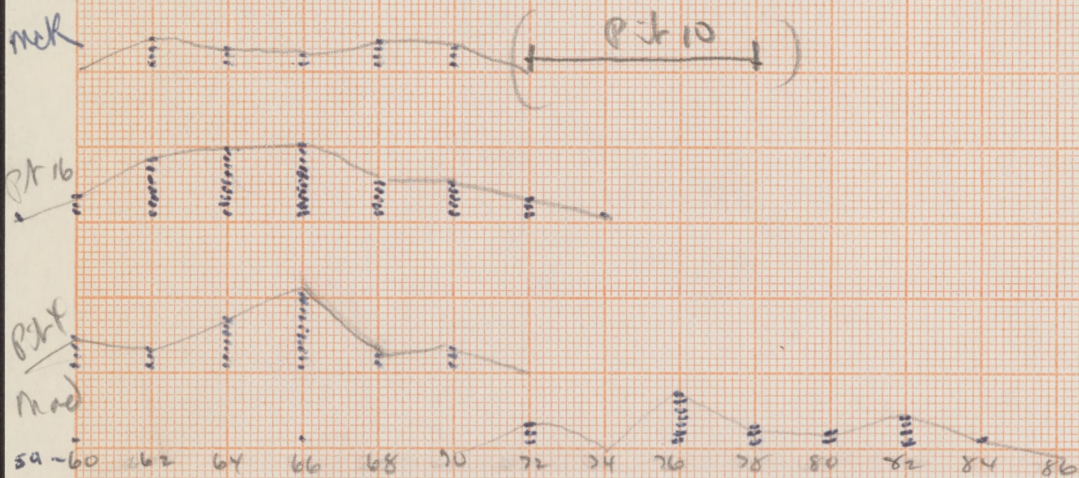
distance between temporal scars - Agouti



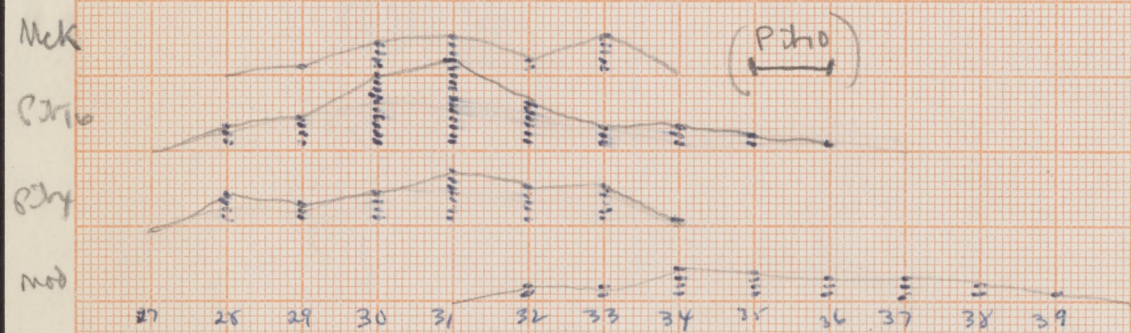
height of cranium, Agouti



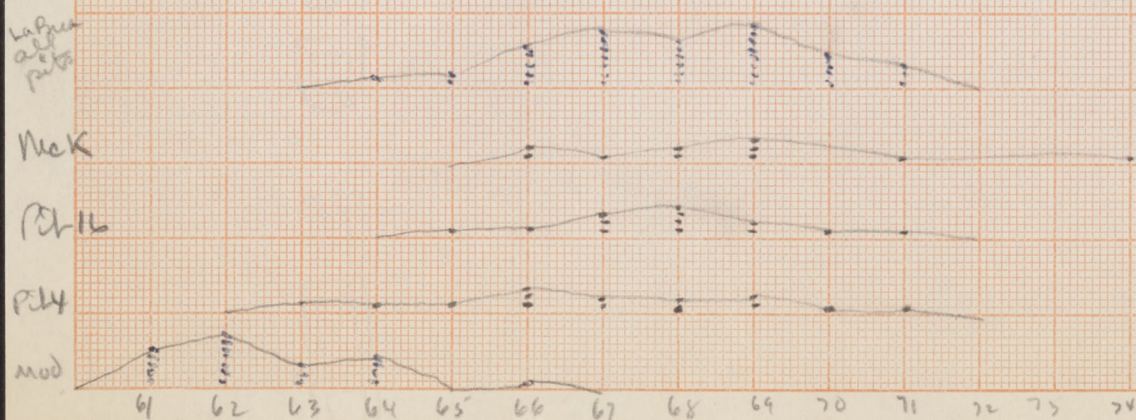
La Brea - greatest breadth cranium Agouti



diet, bet.
 temp. scans
 rel. to br. of
 cranial base
 of p.o. process



diet, bet.
 temp. scans



gr. br.

4 meas. } which show variation
3 ratios } bet. front & Rear

Aguila La Brea Skulls

meas. for which measurements were taken

overlap except for Thompson overlap all with temp. scan

(4/3 shows no overlap which coincide)

no (each)	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	soes with beak	soes with beak	soes with beak	px 2
inside	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	0279	F311	C3257	mt.
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
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	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
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	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 4	px 16	px 16	px 16
	px 3	px 2	px 1	px 4	px 2	px 16	px 13	px 4	px 16	px 4	px 16										

gr. cran.	66.8	70.1	—	69.0	67.0	67.8	66.2	69.7	—	67.8	66.5	66.1	67.7	64.7	70.0	68.8	67.4	65.4	67.4	69.6
br. back pop. fur	47.0	47.5	47.8	48.5	46.1	46.7	47.3	47.7	48.2	48.9	47.0	48.0	48.4	45.7	50.0	48.4	45.4	45.1	46.9	47.9
ht cran	40.0	41.6	39.8	41.8	40.2	40.7	39.8	41.7	41.1	41.4	39.8	40.6	41.6	—	40.6	40.8	39.0	39.2	39.9	39.8
br. lac	23.8	26.4	27.2	26.5	24.5	25.5	—	26.1	24.1	—	24.0	26.7	—	—	25.0	26.5	24.0	24.7	24.1	—
length cran	72.5	74.0	70.7	74.8	74.0	72.5	72.8	72.6	73.8	76.4	72.7	74.6	—	—	73.6	75.0	70.0	71.2	72.3	72.7
br. bet. temp. scan	29.4	33.3	30.8	34.0	30.7	30.0	32.0	31.0	32.3	35.3	33.5	30.8	31.3	28.7	31.1	31.7	28.0	30.5	31.4	30.4
temp. scan	62.6%	64.8%	64.3%	70.2%	66.6%	63.7%	67.7%	65.0%	67.2%	72.4%	71.3%	64.3%	64.6%	62.7%	62.2%	65.5%	61.6%	62.6%	67.0%	63.5%
br. to eye	85.2	89.6	84.1	86.3	82.2	87.2	84.3	87.5	—	—	—	—	—	—	—	—	86.8	—	—	—
br. to eye	92.3	94.7	95.4	92.2	92.2	93.7	91.7	95.4	—	—	—	—	—	—	—	—	—	—	—	—
ht to eye	59.7	59.4	—	60.7	59.9	61.1	60.2	60.0	—	61.0	60.8	61.3	61.5	—	58.0	59.4	58.0	60.0	59.3	57.2
2 br. ca	70.4	67.7	—	70.3	68.7	68.9	71.5	68.5	—	71.9	71.9	72.4	71.5	70.7	71.4	70.4	67.4	69.0	69.7	68.7
Ratio temp. scan	73.5	80.1	77.4	81.3	76.5	73.7	80.5	74.3	78.5	85.3	84.2	75.9	75.3	—	78.1	77.4	71.7	77.8	78.7	76.4

3/0 1/0 0 1/0 3/0 2/0 2/0 1/0 2 2/1 3/1 2/1 1/0 1/0 1/0 2/0 3/0 2/0 1/0

1261.0
792
20537
237
232

1261.0
128
181
130

59.9
1710185
55
168
173
145

405
14769
26
94
95

1014.5
9850
1498.1
125
248
225
237

Cranio La Brea, Mod & modern

	a gr br			b br back p.d. moro.			c br cut temp ears			ht,			★ Ratio cb			Ratio bwa		
	max	m	min															
Modern	²⁰ 66.9	63.0	61.0	²⁰ 48.9	45.6	42.9	²⁰ 39.0	35.9	32.3	¹⁹ 41.8	40.4	38.8	85.3	78.7	73.4	75.8	72.4	68.2
Mod R	⁹ 74.2	69.0	66.0	¹⁵ 49.6	47.6	46.2	¹⁰ 33.8	31.6	29.0	43.2	40.9	39.0	71.4	66.9	62.5	71.5	69.1	64.0
Pt 14	¹³ 71.3	68.2	65.4	¹⁷ 50.0	49.0	43.5	⁴⁴ 36.3	31.6	28.3	³² 42.3	40.5	39.1	72.6	66.3	60.7	¹³ 72.4	70.2	68.5
Pt 4	¹⁴ 71.0	67.5	63.7	³⁰ 49.6	47.4	42.9	²¹ 34.0	31.2	28.0	¹⁹ 42.8	40.6	39.0	71.3	65.7	59.8	71.9	69.8	67.4
all La Brea	³⁸ 71.3	68.1	63.7	¹⁰² 50.0	47.0	42.9	⁹⁷ 36.3	30.1	27.0	⁴⁷ 42.8	40.6	39.0						
Pt 10	² 66	66	66	² 47.5	47.1	46.7	² 36.5	35.7	35.0	² 40.0	39.4	39.2	78.2	76.0	73.7	² 72.0	71.4	70.9
Pt 37	¹ 60	60	60	¹ 44.0			¹ 34.3			¹ 38.2			—	77.3	—	—	¹ 77.3	—
Pt 3	⁴ 70.1	68.8	66.8	⁷ 49.1	47.7	45.5	⁷ 31.7	29.8	27.5	⁴ 42.2	40.8	40.0	⁷ 67.4	62.5	58.0	⁴ 71.0	69.2	67.2
Pt 2	³ 70.1	68.9	67.0	⁵ 48.2	47.1	45.9	⁵ 33.3	31.5	29.8	⁴ 41.8	40.8	39.8	⁵ 70.1	66.1	61.9	⁵ 69.0	68.5	67.0
Pt 60	—	69.3	—	47.8	47.0	45.6	⁶ 31.7	30.0	28.1				⁶ 68.4	63.8	58.7	—	69.3	—

Aquila Crania No deer

	a	b	c	d	
	gr br	br back p.O. paw	br back thumb Scan	ht	ht ²
✓ 1900	61.0	45.5	38.0	40.0	39.7
✓ 1560	62.1	46.7	34.5	40.9	40.5
✓ 1441	62.4	45.7	36.7	—	40.6
✓ 1938	64.4	43.7	32.3	39.5?	41.1
✓ 975	64.4	48.7	36.8	—	40.8
✓ 926	63.5	46.6	38.0	40.2	40.7
✓ 486	—	41.9	32.8	—	—
✓ 927	64.8	46.5	38.6	40.5	40.8
✓ 1442	62.7	44.2	36.0	—	40.5
✓ 1407	61.6	42.8	34.1	38.3	38.3
900	64.2	45.2	35.0	—	—
✓ 923	62.8	43.8	34.5	39.8	40.1
✓ 1420	62.2	45.6	36.1	40.6	40.2
✓ 679	61.8	44.9	32.8	39.1	39.0

P23

Aquila Shells

P23

✓ D2634	—	49.0	30.7	40.3	62.7
✓ D1821	—	48.7	30.8	—	63.3
D2180					
✓ D2451	70.1	47.1	31.9	—	70.4
D2821					
✓ D2412	66.8	47.0	29.4	40.0	
✓ D1805	69.2	49.1	30.2	42.2	
✓ D1327	69.4	47.4	27.5	40.9	
✓ D2624	—	45.5	28.2	—	

P23
~~P23~~

P260

✓ D4529	—	47.8	31.7	41.0	65.8
✓ D4135	—	47.7	30.1	—	63.0
✓ D4553	—	46.1	29.1	39.4	
✓ D4370	—	45.6	31.2	—	
✓ D4085	69.3	47.8	28.1	41.0	
✓ D4958	—	47.3	30.0	—	

✓ D5947 — 50.0 33.7 41.0

P26
61-67

✓ D4829	71.?	48.7	32.6	42.1	66.8
✓ D6740	—	47.0	29.8	—	
✓ D4266	—	47.8	30.8	39.8	

P213

✓ D4977	69.1?	48.8	27.1	41.5	
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P212

P21

C4486	66.1	47.1	31.7	40.0	
P2160	D4958	—	47.3	30.0	

P212

✓ D3506	—	48.2	29.8	—	61.9
✓ D3408	—	45.9	32.2	41.8?	68.7
✓ D3405	70.1	47.5	33.3	41.6	

D3440

✓ D3461	67.0	46.1	30.7	40.8	
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P211

✓ D3171	67.4	45.0	27.0	40.2	
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P216

D4053	—	45.5	28.9	—	
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1296.9
1278.9
1342.8
815.6

Bona aquila skulls contd

957.8

905.4

946.6

612.9

723.2 22.7 (46.7)

29.4 1.8 2 62.50 plates

hr

a
dist
bet.
temp
scalp

b
br
back
of
p.d

Ratio
ab

71) 47342 (46.7)
426
474
426
548

hr

HT

P116	C4886	29.5	47.3	62.4%			
P24	C6522	29.7	49.6	59.8			
P16	C3177	36.3	50.0	72.6	41.3		
P16	C3248	30.5	43.5	70.2			
P4	C7924	33.5	49.6	67.5			
P61	D4829	32.6	48.7	66.8			
P16	C1130	30.3	46.5	65.2			
P16	B9719	29.7	49.1	60.5			
P4	C542	31.5	48.6	64.7			
P16	C3857	30.4	48.7	62.4			
P16	C361	29.6	47.0	62.0			
P67	D6740	29.8	47.0	62.5			
P16	C1032	30.3	46.7	64.8			
P4	C9163	30.0	45.3	65.4			
P13	D4958	30.3	47.2	64.3			
P4	C6317	31.7	47.6	66.6			
P60	D4529	31.5	47.8	65.8			
P77	C6874	29.3	47.8	61.4			
P16	C615	32.8	48.3	68.0			
P4	C8826	30.4	47.5	64.0			
		619.7	957.8	1296.9			

P216	C1117	28.3	48.4	58.4%			
P260	D4085	29.0	42.7	60.7			
P213	D4971	27.1	48.8	55.5			
P24	C5738	32.7	49.0	66.7			
P260	D4376	31.5	45.6	69.1			
P271							
P260	D4553	28.8	46.1	62.5			
P29	T3170	32.2	47.6	67.7	40.5		
P216	C3166	31.6	47.5	66.5			
P24	C5565	33.0	47.5	69.5			
P216	C4376	35.4	47.5	74.5			
P22	D3506	29.8	48.2	61.9			
P241	C9792	33.3	49.3	67.7			
P23	D2634	30.7	49.0	62.7			
P216	C1421	31.7	47.3	67.1			
P216	C4120	34.8	48.5	71.7			
P16	C1883	31.7	48.2	66.0			
P4	C6670	28.1	44.6	63.0			
P3	D1821	30.8	48.7	63.3			
P4	C8961	30.4	47.9	63.5			
		598.9	905.4	1278.9			

P216	B8604	32.8	46.5	70.6			
P16	B9445	30.0	47.6	63.0			
P16	B9422	31.5	46.1	68.4			
P4	C5737	31.5	46.8	67.3			
P2	D3408	32.2	45.9	68.7			
P3	D2180	33.0	48.0	73.0			
P16	C1483	31.5	48.2	65.5			
P60	D4135	30.1	47.7	63.0			
P16	B9569	32.7	48.8	67.0			
P16	C596	28.6	47.2	60.7			
P16	C3414	30.4	47.0	64.7			
P16	C1030	31.8	47.6	66.8			
P4	C7971	32.2	46.1	70.0			
P4	C8834	32.5	48.6	66.9			
P16	C1807	33.4	47.0	71.0			
P16	C1323	31.4	45.2	69.6			
P16	B8395	34.2	47.2	72.4			
P4	D1153	29.6	48.2	61.5			
P4	C6128	33.5	49.2	68.2			
P16	C3129	23.5	47.7	70.3			
		638.4	946.6	1292.6			

P16	B9339	33.0	49.1	71.3	67.2%		
P16	C1420	32.6	49.1	68.9	66.4		
P16	C2006	34.3	49.7	68.7	69.0		
P16	C2487	32.6	47.8	69.1	68.1		
P16	C3164	31.5	47.4	68.7	66.5		
P4	C5696	30.7	48.0	69.6	64.0	60.6%	
P3	D2451	31.7	47.1	70.8	67.4		
P13	C5957	33.0	47.1	68.5	70.1	61.4	
P4	C6561	28.0	42.9	63.7	65.4		
P3	D1327	27.6	47.4	68.3	58.3	59.2	
P1	D3171	27.1	44.8	62.8	60.4		
P4	D4057	28.5	45.4	65.1	62.8		
P4	C8166	31.0	47.2	65.6	66.0		
		612.9					
		P210					
P16	F3234	35.0	47.4	66.0	73.9	60.0	71.9
P4	X3544	36.3	46.7	44.5	77.3	63.5	72.1
P4	D8703	34.3	44.0	60.9	78.0	63.2	
		69.7	94.6	129.2			

Cranium

max length 76.5
mean 69.8
min 63.7
max length 70.7
mean 63.7
min 42.9
max length 50.0
mean 42.9
min 27.4
max length 36.0
mean 27.4
min 38.2

	pt 3	pt 60	pt 4	pt 4	pt 4	pt 4	pt 16	pt 4	pt 60	pt 60	pt 1	pt 16	pt 16	pt 16	pt 4	pt 4	pt 3	pt 16	pt 3	pt 4
	D1805	D4085	C6128	D1153	C5957	C7926	C1420	C6317	D4553	D4320	D3171	C3164	C2006	C1323	C6874	D1322	C6556	C3177	D2451	C5696
ag br	69.2	69.3	—	71.3	68.6	—	—	66.6	—	—	67.4	68.7	68.7	—	—	69.4	63.7	—	70.3	69.5
br back of p.o.	49.1	47.8	49.3	48.3	47.7	49.8	49.1	47.8	46.1	45.6	45.0	42.5	49.5	45.2	42.9	42.4	42.9	50.0	42.1	48.0
dist bet temp scars	30.2	28.1	33.2	29.6	32.8	33.7	31.8	31.5	29.1	31.2	22.0	31.5	33.9	20.9	29.3	27.5	28.0	36.6	31.2	30.7
d length	—	—	74.7	74.3	71.4	—	—	—	—	—	—	—	—	—	72.9	73.2	—	—	71.5	75.7
l length	42.2	41.0	41.0	42.5	41.5	40.3	—	—	39.4	—	40.2	—	40.7	39.8	40.0	40.9	38.9	41.3	—	42.8
br lac	—	—	24.4	26.2	25.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
ea	60.9	59.3	—	59.9?	60.6	—	—	—	—	—	—	—	59.3	—	—	59.0	59.6?	—	—	61.6
ba	70.7	69.2	—	68.0	69.7	—	—	71.9	—	—	—	69.4	72.0	—	—	68.3	67.4	—	67.1	69.0
eb	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

P 710	F 3234	K 3544
ag br (a)	66.0	—
br back of p.o. (b)	47.5	46.8
dist bet temp scars (c)	34.9	36.7
d length (d)	69.7	—
l length (e)	39.8	40.3
br lac (f)	25.5	—
eb	73.5	78.4
ea	60.4	—
eb	83.9	86.0
ad	94.4	—
ba	72.0	—

OK

PK
D

$$\begin{array}{r} 46.8 \\ 39.8 \\ 42.9 \\ 46.8 \\ 44.0 \\ 45.0 \\ 41.1 \\ 44.4 \\ 41.2 \\ 42.5 \\ 44.6 \\ 43.5 \\ 40.2 \\ 38.7 \\ 44.7 \\ \hline 1) 6573 \end{array} \quad \begin{array}{r} 173.3 \\ 280 \\ \hline 506.3 \end{array}$$

Beato Aguila

	Leufth			Bn			ht			ba			ca			bc		
modern	35.3	32.7	30.3	18.3	16.6	14.7	20.3	19.1	18.2	55.5 ⁽¹⁵⁾	50.9	46.8	62.7 ⁽¹²⁾	58.3	53.2	94.8 ⁽¹²⁾	88.0	84.6
Mek	37.5 ⁽¹⁰⁾	35.3	30.5?	21.5 ⁽¹⁾	20.4 ⁽³⁾	19.1	23.0 ⁽¹¹⁾	21.5	20.3 ⁽⁶⁾	64.1	59.1 ⁽¹⁴⁾	55.2	67.0 ⁽¹⁰⁾	61.2 ⁽⁷⁾	57.7	102.0 ⁽²¹⁾	95.1	88.4
Pt 16	36.0 ⁽¹⁹⁾	33.6	29.5	22.7 ⁽²⁾	20.1 ⁽⁴⁾	18.2	22.8 ⁽²¹⁾	21.1	19.7 ⁽¹⁴⁾	63.1	59.6 ⁽¹⁹⁾	55.8	69.3 ⁽¹⁹⁾	62.7 ⁽²¹⁾	57.3	105.0 ⁽²²⁾	94.8	88.3
Pt 4	38.8 ⁽¹⁸⁾	35.4	32.3	22.7 ⁽²²⁾	20.7	18.2	23.0 ⁽²²⁾	21.1	18.3 ⁽¹⁵⁾	62.8	58.4 ⁽¹⁸⁾	54.2	63.7 ⁽¹⁸⁾	59.5 ⁽²²⁾	55.3	102.8 ⁽²²⁾	97.9	91.1
Pt 10	34.8 ⁽¹⁾							21.6					62.0					

Skull

	La Brea vs mod.		br back p.o. of all these no overlap with Rec.								Rec. vs La Brea			
	# spec	# overlap mean but not mean	# overlap mean								# spec.	# overlap mean but not mean	over lap mean	no lap min
temp scan	90	7	1	48.5	48.5	47.5	47.2	34.0	36.3	34.8	34.2	13	9	0
nat. " to br	90	0	0	48.7	50.0	48.0	49.7	35.3	35.4	35.0	34.3	13	0	0
ht cran	22	8	13									13	6	6
nat. " to br 1	20	0	0									12	0	0
gr. br.	31	7	0									13	3	0
br back p.o.	90	18	9									13	12	1
nat. temp scan	19	0	0									12	0	0
length beak	42		30									13	10	3
br beak	49	5	0									12	1	0
ht beak	49		14									12	10	0
br to length	42	3	0	36.6	37.0							12	1	0
ht to length	42	23	7	32.7								12	7	2
br to ht.	49	14	0									12	6	0
												12	5	0

Fossil has broader span across p.o. processes relative to height of skull
and space for temporal muscle encroaches farther toward center of skull
Beak was broader relative to length

Aquila haueri mand, cont'd

OK

	C2843	C1971	C384	C6612	C7320	C637	C4362	D5712	C6455	D1245	C182	D6222	C82	D249	C1923	C6347	D6699	C2544	P410	F2245	C3649
1 manus length	95.6	—	96.5	93.7	90.5	89.7	92.8	92.0	86.6	87.9	97.7	100.7	95.3	96.7	98.0	94.5	99.4	96.6	92.7		
br symph	16.3	17.3	18.0	15.7	15.5	16.3	14.5	15.4	14.4	14.5	15.8	16.4	15.7	16.4	15.5	16.9	17.0	15.4	14.7	18.4	
depth "	14.9	—	16.0	15.0	14.5	14.4	15.0	14.5	13.3	13.7	16.7	16.1	15.3	16.9	16.3	15.3	16.8	15.5	15.8	16.0	
ht mand	11.3	15.7	14.7	10.7	10.6	10.8	11.1	10.0	9.8	10.0	11.5	10.8	10.3	11.3	12.0	10.4	11.8	11.1	11.8		
br across mid.									38.8											35.4	44.7
↑ deft br sup																					
br tol ramus																					

	C1700	C8898	C8446	D2227	D2281	C2249
br symph	15.0	15.5	16.6	14.7	14.8	
depth "	16.7	16.3	15.9	15.0	16.0	

3/3 = 3 meas, 3 ratios of overlap to mod
 x/x indicate # of overlapping with Rec. La Brea Aquila Beaks

	a	b	c					a	b	c					a	b	c			
	Length	Beak below ant. edge ratio	HT meas same place & cere (fronting)	Ratio Ba	Ratio ca	Ratio Cc		Length	Br.	HT	Ratio Ba	Ratio ca	Ratio Cc		Length	Br.	HT	Ratio Ba	Ratio ca	Ratio Cc
0/1	4						1/0								1/0					
mt C5755	38.7	22.7	22.5	58.7	58.0	100.9	C9825	32.3	20.3	20.5	62.8	63.5	99.0	F3090	—	20.8	22.7	—	—	91.6
1/0 with cran. 034	32.0	19.8	22.2	62.5	64.3	85.3	3/1 1/1	24.5	18.2	19.8	61.8	67.2	92.0	D3453	—	22.0	22.6	—	—	97.4
3/2 with cran. 62	32.3	18.3	20.0?	56.7	62.0	91.6	1/2 1/0	33.0	18.8	20.4	57.0	61.9	92.2	F3095	—	21.7	22.0	—	—	98.5
1/1 with cran. D234	34.5	20.3	21.4	58.9	61.7	96.7	0/2	36.7	20.6	22.5	56.2	61.4	91.5	C7344	—	20.6	22.2	—	—	92.8
3/1 D4760	31.5	18.2	20.0	57.8	63.5	91.0	2/3 1/3 1/3	32.7	18.0	19.4	55.2	59.4	92.7	C8611	—	19.4	20.8	—	—	93.3
1/1 C1396	34.5	20.5	20.8	59.5	60.4	98.6	4 2/1	30.5	18.8	18.3	61.7	60.0	102.8	D1146	—	21.6	21.3?	—	—	101?
2/1 C2089	31.9	18.7	19.7	58.7	61.7	95.0	3 2/1	32.2	20.0	20.0	63.3	62.3	100.0	J9061	—	22.0?	22.3?	—	—	100+
1/1 F3091	35.2	20.5	21.6	58.3	61.4	95.0	3 1/1	31.8	18.7?	20.7?	58.8?	65?	90.5							
1/1 F3105	35.4	21.5	22.0	60.7	62.3	97.8	4 0/1	37.6	21.7?	21.5?	57.7?	57.3?	100.0%							
1/1 C6037	35.3	20.4	20.7	57.8	58.7	95.5	4 0/1	36.5	21.7	22.0	59.5	60.3	98.5	P. 110 F3130	34.8	—	21.?	—	—	
0/1 D6636	37.2	21.2	22.3	57.0	60.0	95.2	1 1/1	33.2	20.0	21.2	60.3	63.9	94.4							
3/1 C8004	31.4	18.2	20.0	58.0	63.7	91.1	1 1/1	33.7	20.3	21.6	60.7	64.1	93.5							
0/0 C8777	35.8	22.5	23.0	58.0	59.3	98.0	1 2/0	31.1	19.4	20.0	62.5	64.3	97.0	P+ A	35.0?	21.3	21.5			
1/1 C7977	34.8	21.5	21.6	61.8	62.1	99.5	1 2/0	31.8	19.6	20.1	61.7	63.3	97.5							
2/1 C6028	33.5	19.6	20.2	58.5	64.4	97.0	4 2/1	32.4	19.1	19.9	59.0	61.5	96.0							
2/1 B9377	35.0	19.5	20.0	55.8	57.3	95.5	1 1/0	33.0	20.2	21.0	61.3	63.6	96.3							
0/1 D201	38.0	21.7	22.0	57.0	58.0	98.6	4 1/1	36.0	22.7	21.5	63.1	59.7	105							
0/2 C7844	36.6	19.8	20.5	54.2	56.6	96.5	4 1/1	34.7?	21.2	21?	61.3?	60.6	100							
0/2 C8403	37.4	21.0	22.3	56.3	59.6	94.1	1 1/0	35.0	21.9	22.7	62.6	65.0	96.5							
2/2 C5071	32.8	18.6	19.9	56.7	60.8	93.6	4 0/2	37.0	20.2	20.5	54.5	55.5	98.5							
1/1 C4424	36.3	20.6	22.8	56.7	62.7	90.5	1 1/1	37.5	21.0	20.7	56.0	55.3	101.2							

Skulls

Modern Aquila

Fossil Aquila

No. Specimens Max. mean min. No. Rec. overlap No. Specimens Max. mean min. No. Rec. overlap

a
greatest breadth
across
p.o. processes

18 66.9 63.1 61.0 6 29 71.0 68.2 63.7 8

b
Pr. cranium in
notch back of
p.o. processes

18 48.9 45.8 43.8 all 72 50.0 46.4 42.9 all

c
height of
cranium

17 41.8 40.5 38.8 all 33 41.6 40.5 39.0 all

d
distance between
temporal rami
postero-dorsally

18 39.0 36.0 32.3 10 88 36.3 31.0 27.0 24

e
ratio breadth
to base

18 71.8 72.3 68.2 8 29 72.4 70.8 67.1 16

*
ratio wt. - gls
to base

17 64.4 64.3 62.6 0 25 61.6 59.9 57.2 0

*
ratio scap. br.
to base

18 85.3 79.0 73.6 2 71 74.5 66.6 55.5 1

x
length beak

16 36.3 30.3 38.8 29.5

y
Bt. beak

15 18.3 14.7 1 49 22.7 18.0 5

z
Ht. beak

15 20.3 18.2 23.0 19.7

Ratio y x

15 55.5 51.0 46.8 1 42 62.8 58.9 54.2 3

Ratio z x

13 62.7 58.3 53.2 8 42 72.2 64.9 57.3 23

Ratio z y

18 37.4 33.7 31.6 0 15 46.8 43.3 38.8 0

Breadth mand.

18 37.4 33.7 31.6 0 15 46.8 43.3 38.8 0

Aquila fonsil sterna & pelues

sterna

Pelues

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length
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C9019 123.7 4
C518V (132)
C5155 122
✓ C3039 62.4 130 (48.0)
X C2033 64.2 120.5 53.3
X C2051 69.0 122.5 56.5
X D682 68.6 122.1 56.1
C5663 (72.5) -
✓ B8501 63.2 120.5 52.4
C3131 60.0 122.2 49.1
✓ C5649 68.3 131.5 51.8
✓ C5966 64.0 117 54.6
✓ C401 63.0 (115) 54.7
X C7452 (58.6) 110.2 53.2
X B9521 68.7 121.7 56.7
✓ C2194 64.0 117.7 53.3
X C6315 60.5 121 (50.0)
C7504 70.2 126.2 55.5

C2681 88.8 59.5
C1418 89.5 60.2
C9704 (99.0) (63.7)
D3460 90.7 (58.5)
C1916 89.6 59.0
C6--- 90.0 61.3
B9929 92.0 58.7
D9583 (83.7) 59.0
D5598 92.7 -
P42
F1894 93.3 -
C811 95.0 -
C2652 89.2 -
C2958 96.0 -
C2705 89.1 -
C4246 89.0 -
D3170 93.6 -
B9549 96.5 -
C9077 95.0 -
C7650 88.2 60.3
C7956 91.4 61.2

C7650 87.8 60.2
D241 87.8 -
D4819 89.7 -
C4122 93.7 60.9
C1542 96.1 62.0
60.1.4
91.3
25 22824 7845
22.5
82
25
13 784
78

~~C9019 123.7~~
~~C518V 132.0~~
~~C5155 122.0~~
D239 121.4
C5562 119.5 65.0 54.4
C9859 125

C4054 118.5
C7503 116.7
C1974 123.4
D1296 111.4

C5199 127 a 69-70 54.7
1113 65.4
24 29.1 12 111.7
24 24 17 102
51 91
48 85
31 68
24 68
72

2911.2
126.2 (adding C7504)
25 303 2.4 (121.5)
25
53
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57
124
125

798.8
55.5
16 85 4 3 (53)
80
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64

L A M

CORACOID to AQUIL?

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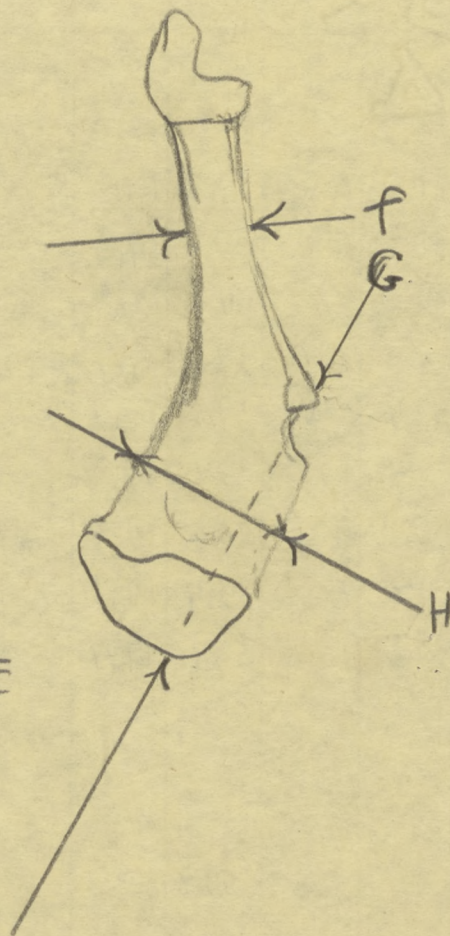
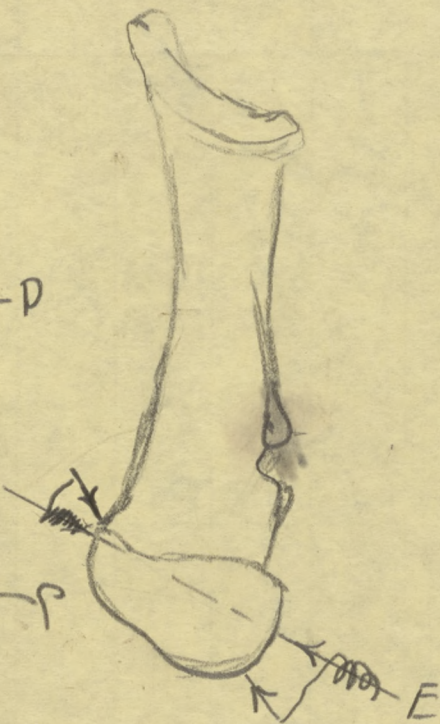
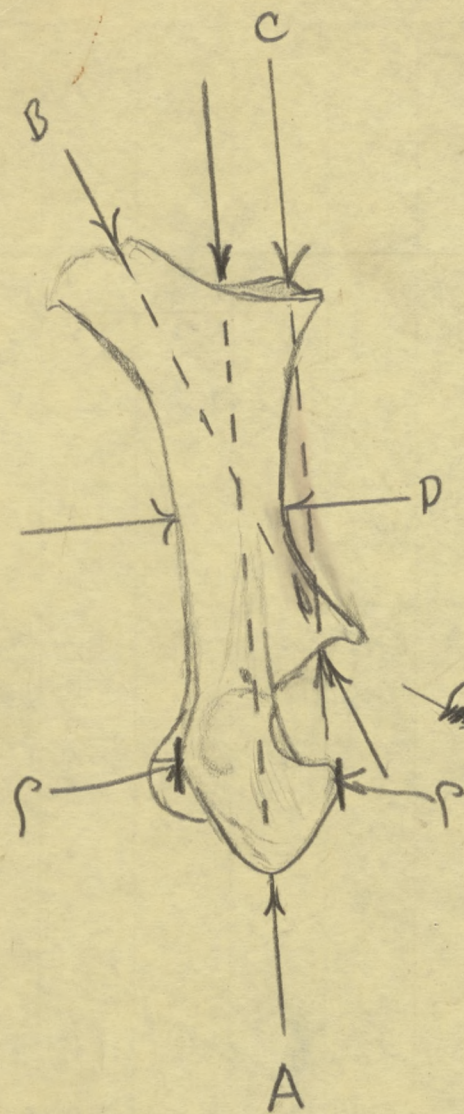
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Left ^{corrected} coracoid

Nov in red are P to #15

corrected

107
13817

3

Bone No	A	D	E	F	J	DA	EA	40	J E	Bone No	A	D	E	F	J	DA	EA	40	J E
C444-14	64.1	11.4	20.7	8.3	9.3	32.3			45.0	D19 16-3	73.1	13.0	23.9	8.9	10.6	32.7			44.4
B9582-14	66.0	13.0	22.1	8.4	10.1	33.4			45.7	D62 31-13	68.0	12.3	23.5	9.4	11.1	34.6			47.3
H4199-16	63.5	12.0	20.6	8.1	10.1	32.4			49.1	C37 12-14	72.5	14.1	24.2	9.2	11.9	33.4			49.3
D625-4	67.7	12.0	22.3	7.9	10.3	32.4			46.3	C39 16-14	70.8	13.4	23.5	8.6	11.7	33.1			49.7
D4695-6	65.8	12.3	22.3	8.8	10.2	33.9			45.7	B97 95-14	65.1	11.6	21.4	8.3	9.8	32.9			45.7
H4278-36	67.0	11.3	23.4	8.9	9.7	33.9			41.3	D7 22-4	70.7	13.3	23.9	8.9	11.2	33.8			46.9
C6636-4	70.8	12.1		8.0	X	—			—	C48 83-14	67.5	12.7		8.7	10.6	—			—
C356-14	64.5	12.6	21.8	8.4	10.0	31.8			45.9	D10 99-4	73.7	14.4		9.4	10.5	—			—
D1798-3	65.1	12.3	21.7	9.0	10.0	33.4			46.2	D7 37-4	64.3	12.0	23.0	9.2	9.9	35.8			43.0
C5336-4	65.8	12.0	21.5	8.3	10.7	32.7			49.8	B99 54-14	68.3	11.9	21.4	8.4	10.3	31.4			48.2
C1495-16	70.0	12.1	23.2	8.7	10.3	33.1			44.5	C32 49-14	68.1	11.6		8.4	10.2	—			—
C2130-14	68.2	13.0	23.4	9.4	10.5	34.3			44.9	D55 41-13	65.1	11.9		8.8	10.2	—			—
C3890-14	64.5	12.3	22.0	8.5	10.1	34.1			46.0	C1 35-14	70.3	13.6	22.6	8.7	11.4	32.1			50.5
C9541-4	67.9	13.7	23.7	8.6	10.4	35.0			43.9	H41 14-16	67.1	13.0	22.8	8.7	10.4	33.9			45.6
B9623-16	65.2	12.0		8.2	10.2	—			—	D26 91-3	64.0	12.0	22.4	8.0	9.4	35.0			42.0
C7380-4	69.7	12.8	23.1	8.9	11.1	33.2			49.4	C29 65-14	69.7	13.2	23.2	8.8	10.8	33.2			46.5
D2776-3	69.1	11.6		8.5	X	—			—	C43 00-14	67.8	12.1	21.9	8.9	9.4	32.3			42.9
C3325-16	65.5	11.7	21.4	8.1	9.5	32.7			44.4	B92 93-14	73.4	14.1	24.6	9.0	11.5	33.5			46.7
C5537-4	66.6	12.8		8.4	10.4	—			—	H42 69-81	69.6	13.2	22.8	8.8	10.0	32.7			43.9
C4194-16	71.9	13.5		9.1	11.1	—			—	D53 44-3	72.6	15.3		9.1	11.8	—			—
112 20913429	67.1 333.2		22.2 1843		10.2	33.2 49.846			45.8 68.87		69.0 13817		23.0 34.51		10.6 21.27	33.3 50.64			46.1 69.16

Left corrected Coracoid La brea Aquila

corrected

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Bone No	A	D	E	F	J	B to A	J to B
C 6475 ¹³	65.3	12.3	21.0	7.9	9.5	32.1	45.3
C 1458 ¹⁴	70.1	13.5	23.7	8.3	10.5	33.8	44.3
C 977 ¹⁴	66.4	12.1	20.9	8.4	10.2	31.5	48.8
D 1355 ³	64.8	11.8	21.8	8.2	10.2	33.6	46.8
C 9812 ⁷	67.6	12.6	—	8.6	X	—	—
¹⁶ B 9945	61.9	11.3	—	8.2	9.9	—	—
⁶¹ D 4691	63.5	11.6	21.8	9.1	10.3	34.3	47.3
⁶³ D 6660	75.0	14.7	25.9	9.8	11.5	34.5	44.4
⁴ C 8719	71.0	13.2	—	8.2	11.1	—	—
¹⁶ C 1276	69.5	12.7	22.8	8.5	10.1	32.7	44.3
⁶⁰ D 4495	72.3	13.6	22.7	8.2	10.8	31.4	47.6
¹⁶ C 3538	65.9	13.2	22.9	8.8	10.0	34.8	43.6
⁶⁰ D 4149	71.1	14.4	23.5	9.3	10.0	33.0	42.5
⁴ D 184	61.9	11.6	20.8	8.5	9.8	33.6	47.1
H 4265 ³	64.8	11.8	21.5	8.1	9.5	33.1	44.2
⁴ C 5697	70.5	13.8	—	8.7	11.2	—	—
H 4116 ¹⁶	66.0	12.7	22.3	8.9	9.6	33.8	43.0
H 4108 ²	69.7	13.3	23.2	8.9	10.0	33.2	43.1
¹⁶ B 9735	66.3	12.7	21.7	7.7	10.1	32.7	46.6
¹⁶ B 8784	63.8	10.9	—	7.4	10.1	—	—
	67.3		22.4		10.2	33.2	45.2
	139.7		33.6		19.4	49.8	63.8

Bone No	A	D	E	F	J	E to A	J to E
D 19 55 ⁴	68.4	13.5	23.2	8.8	10.5	33.9	45.3
C 38 32 ¹⁶	70.4	14.1	23.6	9.3	10.4	33.5	44.1
C 48 40 ¹⁶	68.5	11.7	—	8.5	10.4	—	—
H 41 51 ¹⁶	67.0	14.0	23.1	9.1	10.2	34.4	44.2
C 43 90 ¹⁶	68.1	12.8	—	8.6	11.1	—	—
C 7 91 ¹⁶	65.9	12.6	—	8.1	8.7	—	—
H 40 79 ¹⁶	74.2	12.6	23.5	9.5	11.1	31.6	47.3
D 38 00 ⁶⁰	69.9	13.4	23.8	8.6	11.4	34.0	47.9
C 49 17 ¹⁶	69.7	12.6	22.9	8.6	10.6	32.8	46.4
D 41 50 ¹⁶	66.3	13.6	22.7	8.7	9.8	34.2	43.2
C 1 18 ¹⁶	67.6	12.1	—	8.6	10.4	—	—
C 5 53 ¹⁶	69.3	12.5	—	8.0	10.6	—	—
B 93 40 ¹⁶	64.6	12.2	—	8.6	10.1	—	—
C 97 72 ⁴	65.3	12.5	22.9	8.7	10.0	35.1	43.7
C 65 59 ⁴	67.5	12.5	23.3	8.7	10.1	34.5	43.4
C 33 11 ¹⁶	67.2	12.6	22.0	8.9	9.5	32.7	43.2
C 95 48 ⁴	68.0	13.4	22.5	8.7	11.1	33.1	49.4
D 11 13 ⁴	69.5	12.3	—	8.5	10.3	—	—
D 9 01 ⁴	66.2	12.0	21.2	7.8	10.1	32.0	47.6
D 3 90 ⁴	68.7	12.5	22.0	8.2	10.4	32.0	47.3
	64.1		23.6		10.3	33.3	45.6
	136.23		29.67		20.68	43.38	59.30

LAMVI²

corrected

Coracoid

Labrea

Aquila

corrected

5

No Bone	A	D	E	F	J	E to A	J to E			Bone No	A	D	E	F	J	E to A	J to E		
C 5686-4	74.5	12.4	24.3	8.2	10.0	32.6	41.3			D ¹³ 443	68.4	13.3	—	9.4	10.5	—	—		
D 1097-4	72.4	13.8	25.1	8.4	11.0	34.7	43.8			C ¹⁶ 43	65.6	12.3	—	8.3	10.1	—	—		
C 6358-4	72.5	13.6	23.9	8.4	11.9	32.9	50.0			B ¹⁶ 8 515	72.8	13.2	—	9.4	—	—	—		
D ¹³ 6163	69.5	14.4	—	8.7	10.8	—	—			C ¹⁶ 6 71	74.5	14.1	—	9.0	12.2	—	—		
D ³ 2492	70.7	13.6	—	9.3	11.2	—	—			D ⁶⁰ 36 55	69.6	13.5	23.3	8.6	10.9	33.4	46.8		
B ¹⁶ 9467	65.0	10.8	21.8	8.5	10.1	33.5	46.3			C ¹⁶ 48 64	65.8	12.1	—	8.1	9.7	—	—		
C ⁴ 9946	72.3	13.2	—	8.7	11.2	—	—			C ¹⁶ 20 47	67.1	12.5	22.8	8.6	10.8	33.9	47.4		
C ⁴ 5660	70.1	12.0	21.9	8.3	9.8	31.2	44.6			C ¹⁶ 71 86	72.6	13.1	24.3	8.6	11.1	33.4	45.6		
D ¹³ 6326	70.8	14.7	—	9.2	—	—	—			B ¹⁶ 84 88	74.2	13.6	—	8.6	—	—	—		
B ¹⁶ 8773	66.9	12.1	—	8.2	10.4	—	—			D ¹⁶ 99 9-4	66.5	12.0	—	8.2	10.8	—	—		
D ⁴ 147	61.8	10.9	20.2	7.9	10.1	32.7	50.0			D ¹⁶ 64 51-13	70.6	12.3	22.7	7.7	11.4	32.1	50.3		
B ¹⁶ 9641	65.5	—	21.3	9.1	10.5	32.5	44.4			C ¹⁶ 11 61-14	68.6	12.9	—	7.9	11.3	—	—		
B ¹⁶ 8746	65.6	13.0	22.3	8.9	10.8	34.0	46.4			D ¹⁶ 24 4-4	69.6	13.7	22.3	8.1	10.6	32.0	47.5		
C ¹⁶ 1183	71.0	12.8	24.1	8.6	11.1	33.9	46.1			C ¹⁶ 68 79-4	78.4	14.1	—	8.2	10.5	—	—		
H ⁴ 4123	68.2	13.9	23.5	8.4	10.4	34.5	44.3			B ¹⁶ 87 16-16	73.8	12.4	—	8.6	11.3	—	—		
B ¹⁶ 9417	68.1	13.0	—	8.4	10.7	—	—			H ⁴ 40 68-16	71.7	13.5	—	8.2	11.6	—	—		
C ¹⁶ 3537	69.2	12.3	24.3	8.9	10.7	35.1	44.0			C ¹⁶ 6 01-16	73.0	14.5	—	8.7	—	—	—		
C ⁴ 5743	73.0	13.8	24.5	9.3	10.8	33.5	44.1			B ¹⁶ 94 68-16	68.1	13.2	22.5	9.0	10.8	33.0	48.0		
C ¹⁶ 3143	68.5	12.8	23.1	8.4	9.9	33.7	42.7			D ¹⁶ 36 72-60	64.6	12.1	21.7	8.2	9.5	33.5	43.7		
B ¹⁶ 9737	70.7	14.4	24.2	8.9	10.2	34.2	42.2			D ¹⁶ 7 40-4	70.0	14.2	21.8	9.0	11.6	31.1	53.3		
	69.3	23.4			10.6	33.5	45.6						69.7	22.6	10.8	32.8	47.8		
	138.6	32.45			201.6	46.40	63.72						137.55	18.14	18.47	24.24	47.26		

10/5

8. Benm

Left Coracoid
corrected

La Brea Aquila

corrected

6

Bone No	A	D	E	F	J	ED A	LB B
D 2690	66.9	13.1	23.3	8.4	11.3	34.8	48.5
B 997	69.1	12.6	22.4	8.2	10.7	32.4	47.8
C 6362	70.9	14.1	23.3	8.3	10.5	32.9	45.1
C 659	67.1	12.0	22.6	8.7	10.6	33.7	47.0
C 8844	67.9	13.4	23.5	8.6	10.5	34.6	44.7
C 8362	67.9	13.1	—	8.7	10.6	—	—
B 8634	72.2	14.3	24.1	8.7	11.0	33.4	45.7
D 2356	72.4	13.7	23.7	9.0	11.1	32.7	46.9
D 4270	71.9	13.5	24.5	9.0	11.7	34.1	47.8
D 3473-2	76.4	15.0	25.8	10.0	11.9	33.8	46.2
C 1160-16	67.2	12.7	23.1	8.8	10.2	34.4	44.3
C 7246-4	69.8	14.1	23.5	9.0	11.2	33.7	47.7
D 4269-60	72.3	14.1	—	9.2	11.3	—	—
D 4577-60	65.0	13.7	—	8.8	9.9	—	—
C 1451-16	70.0	12.3	23.2	7.4	10.6	33.1	43.7
D 6535-13	70.0	13.7	22.8	8.3	—	32.5	—
C 5268-4	70.1	13.1	22.6	8.7	—	32.2	—
C 9505-4	67.7	12.7	21.7	8.6	10.9	32.2	50.3
C 4589-16	71.3	12.7	—	8.3	10.9	—	—
C 5675-4	67.3	11.7	22.5	8.4	10.1	33.3	44.9
	69.6 139.4		372.6 23.2		10.8 195.0	33.3 53.38	47.1 65.26

Bone No	A	D	E	F	J	ED A	LB B
C 5191-4	66.0	12.0	21.2	8.4	10.3	32.1	48.7
C 9601-4	67.0	12.8	—	8.8	10.1	—	—
D 1914-3	66.8	11.9	22.2	8.4	10.1	33.2	45.5
C 990-16	70.7	13.2	24.3	8.5	11.2	34.3	46.1
C 7077-4	67.2	12.6	—	8.4	10.2	—	—
C 8747-4	67.8	11.9	22.7	8.4	10.1	33.5	44.5
C 9980-4	64.7	12.8	22.0	8.7	10.1	34.0	45.9
D 444-4	66.1	11.8	21.4	8.7	10.1	32.4	47.3
C 9273-4	70.0	13.8	—	8.9	10.8	—	—
C 458-16	67.5	11.7	22.9	7.9	10.1	33.9	44.2
C 2169-16	69.1	14.5	22.9	8.8	12.6	33.1	55.1
C 8165-4	63.0	12.6	—	8.8	10.4	—	—
C 1583-16	67.2	13.3	23.3	8.9	11.5	34.7	49.4
C 4751-16	64.3	12.2	21.2	7.9	9.6	33.0	45.3
C 4182-16	69.5	12.6	—	8.2	11.0	—	—
D 4124-60	68.1	13.1	24.0	8.6	10.9	35.2	45.4
B 9488-16	69.3	13.4	23.0	8.4	10.4	33.2	45.3
C 7160-4	67.1	13.5	22.4	8.2	10.0	33.4	44.6
C 2669-16	63.1	11.4	21.9	7.7	10.5	34.8	48.0
C 2301-16	72.4	15.3	23.6	8.6	10.1	32.4	42.8
	69.8 135.9		22.6 339.0		10.5 2101	33.5 50.34	46.5 69.81

15 Benom

Left coracoid *Aquila fossil* - La Brea

7

	A	D	E	F	J	H	He Je	JH	EA	
D3443 ⁻²	69.8	13.1	23.9	8.4	10.7	19.1	80.0	44.7	56.0	34.2
⁶⁰ D3808	72.2	15.2	24.0	9.2	11.8	19.4	80.9	49.3	60.8	33.2
⁶⁰ D4061	69.3	13.1	23.0	8.3	10.4	18.0	78.4	45.3	57.9	33.2
¹⁶ C4233	64.0	12.1	—	8.1	9.6	17.1	—	—	56.2	—
¹⁶ C1334	72.6	13.2	24.1	8.6	10.4	18.8	78.0	43.2	53.4	33.2
¹⁶ C1297	68.3	12.8	23.3	8.4	10.3	18.2	78.2	45.0	57.7	34.1
¹⁶ H4117	66.7	13.4	—	8.7	9.7	16.8	—	—	57.7	—
⁴ D1149	66.2	12.3	—	9.1	10.1	18.1	—	—	55.8	—
¹⁶ C1426	68.3	12.9	23.2	9.2	10.5	17.8	76.7	45.3	59.0	34.0
⁴ C9575	69.1	12.7	—	9.0	10.7	17.8	—	—	60.1	—
⁴ E5556	73.0	14.1	25.4	9.2	11.3	20.0	78.9	44.6	56.5	34.8
⁴ C6261	71.6	13.2	—	8.4	11.3	19.3	—	—	58.6	—
⁴ C7553	68.7	12.3	21.9	8.4	10.3	17.2	78.7	47.0	54.9	31.8
¹⁶ H4218	64.0	11.4	21.4	8.2	9.6	16.7	78.3	44.8	57.5	33.4
¹⁶ C1534	66.3	12.2	23.3	8.3	9.8	18.3	78.5	42.0	53.5	35.7
⁴ C9051	73.5	15.7	—	9.2	10.7	20.0	—	—	53.5	—
⁴ C8380	71.8	12.3	24.3	7.7	10.2	18.5	76.3	42.0	55.3	33.8
¹⁶ C3509	71.3	13.6	24.5	8.5	11.1	18.7	76.6	45.3	54.4	34.4
⁶⁰ D3722	71.1	14.1	23.0	9.4	11.1	—	—	48.3	—	32.3
¹³ D5377	65.5	12.3	22.8	9.3	10.7	18.5	81.3	47.0	57.9	34.8
	69.1	14.1	22.8	9.3	10.5	18.5	81.3	47.0	57.9	34.8
	158.23		23.4		210.5					
							17)	6338	10865	33.7
								45.2	59.1	47.29

THIS COLUMN
Pit 10

LA Brea AQUIC3
corrected

Pit 10 CORACOID

THIS COLUMN
Pit A

	A	D	E	f	J	Ratio ETD A	Ratio JTD E					A	D	E	f	J				
										Bone No										50
R H 4289	65.7	12.3	—	8.2	10.4	—	—			L		68.2	12.3	20.8	8.6	10.2	49.0			
R K 3752	70.2	13.6	22.7	8.2	10.8	32.3	47.6			L		65.8	12.2	23.1	7.7	9.4	40.6			
L H 4245	66.9	—	23.2	8.3	10.0	34.7	43.2			L		64.9	12.0	20.2	8.0	10.7	53.0			
R K 3662	64.7	12.5	—	8.4	10.3	—	—										10.0 30.3	47.5 14.26		
L K 4014	70.4	13.9	22.5 ^a	8.3	10.9	32.0	48.5			R		71.1	13.2	20.4	8.2	9.4	46.1			
R H 4285	64.9 ^a	12.4	—	8.2	10.2	—	—			R		69.3	13.6	22.8	8.7	11.4	50.0			
L K 4015	70.0	14.0	—	9.5	—	—	—			R		65.2	12.3	21.1	8.5	10.0	47.6			
L K 4016	66.8	12.4	—	8.4	10.6	—	—										10.2	47.9		
L H 4302	69.5	12.3	—	7.8	9.9	—	—										30.8	143.7		

10.1
46.4
41.4
39.3

Broom

LAMVP

corrected

left CORACOID

La Brea A quila

(2)

Bone No.	A	D	E	F	J	J to A	B to A	J to E
B 9861-15	66.9	12.4	22.5	8.7	10.1	15.1	33.6	45.0
H 4191-16	67.1	12.4	22.7	8.5	10.8	16.1	33.9	42.6
C 561-14	72.0	13.8	—	8.7	10.2	14.1	—	—
D 1080-7	66.8	11.9	22.1	8.2	10.2	15.2	33.1	46.3
C 336-14	66.9	12.3	21.0	8.6	11.4	17.0	31.4	54.4
C 357-14	72.2	14.3	24.0	9.2	10.3	14.2	33.2	43.0
D 3911-60	67.3	12.7	—	8.7	10.4	15.4	—	—
C 3506-14	68.5	12.9	22.1	8.5	10.5	15.3	32.3	47.6
C 8846-4	71.0	11.8	24.5	8.0	10.5	14.8	34.5	42.8
D 2375-3	67.4	12.1	23.9	8.4	10.0	14.8	36.5	41.8
H 4065-16	72.8	14.5	—	8.7	11.4	15.6	—	—
D 6601-13	69.9	13.7	24.5	9.2	10.7	15.3	35.1	43.7
C 3864-14	66.2	12.9	—	8.1	9.3	—	—	—
D 2832-3	68.8	12.5	—	8.2	11.0	15.9	—	—
D 1349-3	66.9	11.7	22.0	8.2	9.6	—	32.9	43.6
D 5994-3	63.7	13.0	22.3	8.3	10.5	16.4	35.0	47.1

68.3
 165109444
 22.8
 251.6
 10.4
 11669
 33.6
 37.05
 45.7
 50.29

14
 48
 42
 14165

Bessom

Pch 4 concoid left

4-1

	M=68.9		M=10.5			M=68.7													
	A	E	S	ED A	JA E	d A	Ad ²	d S											
C8023	73.9	24.1	11.4	32.6	47.3	5.2	27.04	.9	.81	C9548	68.0	22.5	11.1	33.1	49.8	.7	.49	.6	36
C6801	66.7	—	10.2	—	—	2.0	4.00	.3	.9	D1113	69.5	—	10.3	—	—	.8	.64	.2	4
D1080	66.8	22.1	10.2	33.1	46.3	.9	.81	.3	.9	D901	66.2	21.2	10.1	32.0	47.6	2.5	6.25	.4	16
C8846	71.0	24.5	10.5	34.5	42.9	2.3	5.29	—	—	D390	68.7	22.0	10.4	32.0	47.3	—	—	.1	1
D625	67.7	22.3	10.3	32.4	46.3	1.0	1.00	.2	.4	C5686	(74.5)	24.3	10.0	32.6	(41.3)	5.8	33.64	.5	25
C6636	70.8	—	—	—	—	2.1	4.41	—	—	D1097	72.8	25.1	11.0	34.7	43.8	3.7	13.69	.5	25
C5336	65.8	21.5	10.7	32.7	49.8	2.9	8.41	.2	.4	C6358	72.5	23.9	(11.9)	32.9	50.0	3.8	14.44	1.4	21.6
C9541	67.9	23.7	10.4	35.0	43.9	.8	.64	.1	.1	C9940	72.3	—	11.2	—	—	3.6	12.96	.7	49
C7380	69.7	23.1	11.4	33.2	49.4	1.0	1.00	.9	.81	C5660	70.1	21.9	9.8	31.2	44.6	1.4	1.96	.7	49
C5537	66.6	—	10.4	—	—	2.1	4.41	.1	.1	D147	(61.8)	20.2	10.1	32.7	50.0	6.9	23.61	.4	16
C722	70.7	23.9	11.2	33.8	46.9	2.0	4.00	.7	.49	C5743	73.0	24.5	10.8	33.5	44.1	4.3	18.49	.3	9
D1099	73.7	—	10.5	—	—	5.0	25.00	—	—	C7186	72.6	24.3	11.1	33.4	45.6	3.9	15.21	.6	36
D137	64.3	23.0	9.9	(35.8)	43.0	4.4	19.36	.6	.36	D799	66.5	—	10.8	—	—	2.2	4.84	.3	9
C9812	67.6	—	—	—	—	1.1	1.21	—	—	D244	69.6	22.3	10.6	32.0	42.5	.9	.81	.1	1
C8719	71.0	—	11.1	—	—	2.3	5.29	.6	.36	C6879	78.4	—	10.5	—	—	9.7	94.09	—	—
D184	61.9	20.8	(9.8)	33.6	47.1	6.8	46.24	.7	.49	D740	70.0	21.8	11.6	31.1	53.3	1.3	1.69	1.1	121
C5697	70.5	—	11.2	—	—	1.8	3.24	.7	.49	D2690	66.9	23.3	11.3	34.8	48.5	1.8	3.24	.8	64
D1955	68.4	23.2	10.5	33.9	45.3	.3	.90	—	—	C6362	70.9	23.3	10.5	32.9	45.1	2.2	4.84	—	—
C9772	65.3	22.9	10.0	35.1	43.7	3.4	11.56	.5	.25	C8844	67.9	23.5	10.5	34.6	44.7	.8	.64	—	—
C6559	67.5	23.3	10.1	34.5	43.4	1.2	1.44	.4	.16	C8362	67.9	—	10.6	—	—	.4	.64	.1	1
	126.8	248.4	189.8	440.2	593.3	173.5	72	702			1399.7	374.6	214.7	493.8	702.6	250.1	110		903

Pst 4 left cora.

4-2

	68.9																			
	A	E	J	EA	JE	d	d ²	A ^d			A ^{d²}			EA		JE		E		
C7246	69.8	23.5	11.2	33.7	47.7	.7	.49	1.1	198.9	19				397.2	12		506.5	11	271.6	12
C5268	70.1	22.6	—	32.2	—	—		1.4	189.8	18				440.2	13		593.3	13	298.4	13
C9505	67.7	21.7	10.9	32.2	50.3	.4	.16	1.0	214.1	20				493.5	10		702.8	15	344.1	15
C5675	67.3	22.5	10.1	33.3	44.9	.4	.16	1.4	602.8	57				1330.9	40		1804.6	39	914.1	40
C5191	66.0	21.2	10.3	32.1	48.7	.2	.4	2.7												
C9601	67.0	—	10.1	—	—	.4	.16	1.7												
C7072	67.2	—	10.2	—	—	.3	.9	1.6	57	602.8										
C8747	67.8	22.7	10.1	33.5	44.5	.4	.16	.9												
C9980	64.7	22.0	10.1	34.0	45.9	.4	.16	4.0												
D444	66.1	21.4	10.1	32.4	47.3	.4	.16	2.6												
C9273	70.0	—	10.8	—	—	.3	.9	1.3												
C8165	63.0	—	10.4	—	—	.1	.1	5.7												
C7160	67.1	22.4	10.0	33.4	44.6	.5	.25	1.6												
D1149	66.2	—	10.1	—	—	.4	.16	2.5												
C9575	69.1	—	10.7	—	—	.2	.4	.4												
C5556	73.0	25.4	11.3	34.8	44.6	.8	.64	4.3												
C6261	71.6	—	11.3	—	—	.8	.64	2.9												
C7553	68.7	21.9	10.3	31.8	42.0	.2	.4													
C9051	73.5	—	10.7	—	—	.2	.4													
C8380	71.8	24.3	10.2	33.8	42.0	.3	.9													
	136.9	22.6	19.8	39.2	50.5			73.4												

10.5
57 602.8
32.8
28.5
43

33.2
40 1330.9
120
130
120
109

46.3
39 1804.6
156
274
234
106

A

7.02
9.03
7.54
23.59

1367.7
1367.8
1389.7
60 4135.2 (68.9)
360
535
480
532
540

22.8
40 91.41
80
114
80
341

mod vs Pit 4

$$\begin{array}{r} \text{mod } d^2 \quad 14.51 \\ \text{fo. } d^2 \quad 23.59 \\ \hline 38.10 \end{array}$$

$$\begin{array}{r} N=23 \\ N=57 \\ \hline 161 \\ 115 \\ \hline 1311 \end{array}$$

$$\begin{array}{r} 10.5 \\ 9.8 \\ \hline .7 \end{array}$$

$$\begin{array}{r} 1021 \\ 1311 \overline{) 38 \times 10.} \\ \underline{2622} \\ 1880 \end{array}$$

$$\begin{array}{r} 1021 \overline{) 145} = .145 = qd \end{array}$$

$$\begin{array}{r} d/od = 4.9 \\ \text{probably sig.} \end{array}$$

mod vs Pit 4

$$A \quad od = 794$$

$$d/od = 1.7 - \text{not significant}$$

$$\begin{array}{r} 173 \\ 1239 \\ \hline 16 \\ 16 \\ \hline 96 \\ 16 \\ \hline 256 \end{array}$$

$$\begin{array}{r} 16 \\ 16 \\ \hline 32 \end{array}$$

Right coracoid Aquila
real
to facet

	A	B	C	D	E	F	G	H	J
1900	69.6	56.5	44.7	13.8	23.2	8.9	32.4	18.9	9.8
486	64.1	50.1	39.5	11.7	21.7	8.3	28.9	17.3	9.5
474	63.1	49.9	39.2	11.4	20.3	8.3	28.4	16.5	8.8
1442	70.6	54.3	43.2	12.6	22.8	8.2	23.1	17.8	10.2
1407	71.1	55.4	45.2	13.4	24.2	9.1	32.3	18.1	9.9
1441	65.0	51.0	40.1	11.7	22.3	8.6	31.8	19.3	8.8
927	69.2	55.1	42.7	13.5	23.7	9.4	30.1	17.8	10.2
1938	70.4	53.9	43.6	11.9	24.0	8.8	32.6	18.4	10.3
900	69.8	54.4	42.6	12.4	23.2	8.7	32.6	18.1	10.1
926	65.7	52.0	41.1	13.3	22.7	9.0	30.3	17.8	9.5
1560	64.8	51.9	40.0	13.3	22.9	8.3	30.0	18.6	9.8
923	63.5	49.1	37.2	12.1	21.7	9.4	30.3	17.4	9.7
975	74.6	58.4	45.3	14.1	25.3	9.8	34.2	20.1	10.4
679	64.5	49.8	39.2	11.1	22.2	8.4	28.7	17.0	8.8
Ratio									
Average	67.5	52.9							
Total	146.0	741.8	592.6	176.3	309.9	123.2	425.6		

Coracow P. 10

down

A O E F J

EA JE

K4016	67.1	11.6	—	8.4	10.7		
K3906	—	12.2	—	—	10.4		
K3662	70.0	13.3	22.7	7.9	11.3	32.4	49.8
K3751	—	12.0	—	8.1	—		
H4245	67.1	—	23.2	7.8	10.0	34.6	43.1
K4014	70.2	13.5	22.0?	7.5	11.0	31.3?	50.7
R4289	64.8	12.0	—	—	10.9		

32.7

67.8 12.4 22.6 7.9 10.7 94.3 47.4
 339.2 74.4 679 39.7 641 31429

12
 22
 21
 19

33.7
 533
 16) 533
 44
 93
 415

10.4
 9.6
 1.2
 2.4
 6.4

15
 13.5

22
 10

12
 42

65

33
 10

14
 4
 5
 9
 2
 6
 3

PTA Concord ~~Left~~ ^{down}

A D E F J EA JE

Left 68.0 11.6 23.7 8.7 9.6 34.0 41.5

Left 65.0 11.4 20.3 7.8 9.4 31.2 46.3

Left 66.0? 11.7 — 7.8 10.8 — —

Left 66.0 — — 23.7 — 10.8 — —

$$\begin{array}{r} 21878 \\ 43.9 \end{array}$$

right 69.5 — 22.5 — 10.5 32.3 46.7

" 64.7 11.8 20.8 7.9 10.3 32.1 49.5

" 68.8 13.4 21.3 8.3 10.3 30.9 48.4

" 71.0 11.8 22.6 8.3 11.8 31.8 52.3

" 61.5 11.6 20.9 6.8 9.8 34.0 46.8

66.8 10.2 — 47.2

$$\begin{array}{r} 8) 5345 \\ 48 \\ \hline 54 \\ 48 \\ \hline 65 \end{array}$$

$$\begin{array}{r} 9) 923 \\ 81 \\ \hline 113 \\ 9 \\ \hline 113 \\ 51 \\ \hline 49 \\ 45 \end{array}$$

amended total
gives same mean

[illegible]

Agua La Brea Caracol

Pt 2

H 4108 69.7 23.2 10.0 33.2 43.1

D 3498 71.8

C 3473 76.4

D 3443 69.8

71.8

287.7

Pt 61

D 4495 65.8

D 4691 63.5

64.6

129.3

D 6660 75.0

A

Pt 13

D 6601 69.9 24.5 10.7 35.1 43.7

D 5994 63.7 22.3 10.5 35.0 47.1

D 6231 68.0 23.5 11.1 34.6 47.3

D 5541 65.1 — 10.2 —

D 5344 72.6 — 11.8 —

C 6475 65.3 21.0 9.5 32.1 45.3

D 6163 69.5 — 10.8 —

C 6326 70.8 — — —

C 5443 68.4 — 10.5 —

D 6451 70.6 22.7 11.4 32.1 50.3

D 6535 70.0 22.8 — 32.5 —

D 5377 65.5

68.3

12 81 96

72

99

96

56

10.7

96.5

46.7

2337

20

33

Pt 60 left
coracoid

Aquila
fossil

Pt 3 left coracoid

A E J F J to
A to E

D3840	73.7	23.4	10.5	31.7	44.8
D3911	67.3	—	10.4	—	—
D4495	72.2	22.7	10.8	31.4	47.6
D4149	71.1	23.5	10.0	33.0	42.5
D3800	64.9	23.8	11.4	34.0	47.9
D3655	64.6	23.3	10.9	33.4	46.8
D3672	64.6	21.7	9.5	33.5	43.7
D4270	71.9	24.5	11.7	34.1	47.8
D4269	22.3	—	11.3	—	—
D4577	65.0	—	9.9	—	—
D4124	68.1	24.0	10.9	35.2	46.4
D3808	72.2	24.0	11.8	33.2	49.3
D4051	64.3	23.0	10.4	33.2	45.3
D3722	71.1	23.0	11.1	32.3	48.3

64.3	23.3	10.7	33.1	46.3
14) 9284	1269	137	3630	5094
84	22	14	23	44
88	36	106	36	69
84		98		66
44				34

A E J E D J
A to E

D2424	70.1	—	11.4	—	—
D2375	62.4	23.9	10.0	35.5	41.8
D2832	68.8	—	11.0	—	—
D1349	66.9	22.0	9.6	32.9	43.6
D1798	65.1	21.7	10.0	33.4	46.2
D2774	64.1	—	—	—	—
D1914	73.1	23.9	10.6	32.7	44.4
D2691	64.0	22.4	9.4	35.0	42.0
D1355	64.8	21.8	10.2	33.6	46.8
D2492	70.7	—	11.2	—	—
D2356	72.4	23.7	11.1	32.7	46.9
D1914	66.8	22.2	10.1	33.2	45.5
H4267	70.2	—	10.5	—	—
H4265	64.8	21.5	9.5	33.1	44.2

68.1	22.5	10.3	33.5	44.6
14) 9542	2031	1346	3034	4016
84	9	13	27	36
114		32	27	41
22		56	36	56

Left Coraco - Modern L.A.M. $\frac{100}{53} - 51$

	67.5	count				M=9.8						
	A	D	E	F	J	Ratio E to A	Ratio J to E	d A		d J		
4	71.5	13.3	22.6	8.8	10.7	31.4	42.4	4.0	16.0	.9	81	
5	68.4	12.5	22.0	8.9	9.3	32.2	42.2	.9	.81	.5	25	
1791	68.7	13.7	21.7	9.0	10.4	31.6	42.9	1.2	1.44	.6	36	
897	63.9	12.0	20.4	8.5	10.4	31.9	51.0	3.6	12.76	.6	36	
241	65.7	11.4	20.8	7.9	8.2	31.6	39.4	1.8	3.24	1.6	256	
1088	69.5	12.6	22.7	10.0	9.7	32.6	42.6	2.0	4.00	.1	1	
468	68.3	13.7	23.0	9.1	11.4	33.6	49.6	1.8	1.64	1.6	256	
1093	73.9	13.6	23.4	9.6	10.5	31.7	44.9	6.4	39.96	.7	49	
1760	64.6	11.4	20.6	8.7	9.2	31.8	44.6	2.9	8.41	.6	36	
small 3	62.3	11.7	20.7	8.3	8.5	33.2	41.1	5.2	27.04	1.3	1.69	
	67.6		21.7		9.8	32.1	45.0				9.54	
	676.8		217.9		98.3	321.8	450.7		114.30		4.97	
									146.36		14.51	
									260.66			

UCLA medium Left COR2001d AQU122
real fact

FA
J E

	A	B	C	D	E	F	G	H	J		A	B	C	D	E	F	NG	H

Pit 16 coreoid (left)

16-2

	A	E	J	ED A	Jto E							A	E	J	ED A	Jto E						
C1534	65.3											C1424	68.3									
C3505	67.8	21.5	11.5	31.7	53.5							C4883	67.5	—	10.6	—	—					
C2443	72.3	—	—	—	—							B9954	68.3	21.4	10.3	31.4	48.2					
C3265	69.0	—	10.5	—	—							C3249	68.1	—	10.2	—	—					
B9861	66.9	22.5	10.1	33.6	45.0							C135	70.3	22.6	11.4	32.1	50.5					
C561	72.0	—	10.2	—	—							C2965	69.7	23.2	10.8	33.2	46.5					
C336	66.9	21.0	11.4	31.4	54.4							C4300	67.8	21.9	9.4	32.3	42.9					
C357	72.2	24.0	10.3	33.2	43.0							B9293	73.4	24.6	11.5	33.5	46.7					
C3506	68.5	22.1	10.5	32.3	47.5							C1458	70.1	23.7	10.5	33.8	44.3					
C444	64.1	20.7	9.3	32.3	45.0							C977	66.4	20.9	10.2	31.5	48.8					
B9582	66.0	22.1	10.1	33.4	45.7							B9945	61.9	—	9.9	—	—					
C356	68.5	21.8	10.0	31.8	45.9							C1276	69.5	22.8	10.1	32.7	44.3					
C1495	70.0	23.2	10.3	33.1	44.5							C3538	65.9	22.9	10.0	34.8	43.6					
C2130	68.2	23.4	10.5	34.3	44.9							B9735	66.3	21.7	10.1	32.7	46.6					
C3890	64.5	22.0	10.1	34.1	46.0							B8784	63.8	—	10.1	—	—					
B9623	65.2	—	10.2	—	—							C3832	70.4	23.6	10.4	33.5	44.1					
C3325	65.5	21.4	9.5	32.7	44.4							C4840	68.5	—	10.4	—	—					
C4194	71.9	—	11.1	—	—							C4390	68.1	—	11.1	—	—					
C3712	72.5	24.2	11.9	33.4	49.3							C791	65.9	—	8.7	—	—					
C3914	70.8	23.5	11.7	33.1	49.7							C4917	69.7	22.9	10.6	32.8	46.4					
B9795	65.1	21.4	9.8	32.9	45.7							C4150	66.3	22.7	9.8	34.2	43.2					
14332	33.48	19.43	49.33	70.45								14210	29.49	20.24	42.85	59.61						

Pit 16 concoid left

C3464

16-1

	A	E	J	ED A	J to E
C3509	71.3	—	—	—	—
C118	67.6	—	10.4	—	—
C553	69.3	—	10.6	—	—
B9340	64.6	—	10.1	—	—
C3311	67.2	22.0	9.5	32.7	43.2
B9467	65.0	21.8	10.1	33.5	46.3
B8773	66.9	—	10.4	—	—
B9641	65.5	21.3	10.5	32.5	49.4
B8746	65.6	22.3	10.8	34.0	48.4
C1183	71.0	24.1	11.1	33.9	46.1
B9417	68.1	—	10.7	—	—
C3537	69.2	24.3	10.7	35.1	44.0
C3143	68.5	23.1	9.9	33.7	42.7
B9937	70.7	24.2	10.2	34.2	42.2
C143	65.6	—	10.1	—	—
B8515	72.8	—	—	—	—
C671	74.5	—	12.2	—	—
C4864	65.8	—	9.7	—	—
C2047	67.1	22.8	10.8	33.9	47.4
B8488	74.2	—	—	—	—
C1161	68.6	—	11.3	—	—

143'5" 205'9" 182'9" 303'5" 409'6"

	A	E	J	ED A	J to E
B8714	73.8	—	11.3	—	—
C601	73.0	—	—	—	—
B9468	68.1	22.5	10.8	33.0	48.0
C659	67.1	22.6	10.6	33.7	47.0
B8634	72.2	24.1	11.0	33.4	45.7
C1160	67.2	23.1	10.2	34.4	44.3
C1451	70.0	23.2	10.6	33.1	45.7
C4589	71.3	—	10.9	—	—
C990	70.7	24.3	11.2	34.3	46.1
C458	67.5	22.9	10.1	33.9	44.2
C2169	69.1	22.9	12.6	33.1	55.1
C1583	67.2	23.3	11.5	34.7	49.4
C4751	64.3	21.2	9.6	33.0	45.3
C4182	69.5	—	11.0	—	—
B9488	69.3	23.0	10.4	33.2	45.3
C2669	63.1	21.9	10.5	34.8	48.0
C2301	72.4	23.6	10.1	32.6	42.8
C4233	64.0	—	9.6	—	—
C1334	72.6	24.1	10.4	33.2	43.2
C1297	68.3	23.3	10.5	34.1	45.0

138'0.7" 346'6" 192'4" 50'55" 60'54"

$$\begin{array}{r}
 5675.2 \\
 683.9 \\
 \hline
 93) 6358.1 \\
 558 \\
 \hline
 779 \\
 744 \\
 \hline
 351 \\
 279 \\
 \hline
 7A
 \end{array}$$

$$\begin{array}{r}
 5675.2 \\
 886.2 \\
 \hline
 96) 6561.4 \\
 576 \\
 \hline
 801 \\
 768 \\
 \hline
 330 \\
 288 \\
 \hline
 42
 \end{array}$$

Coaroid left 16-3

H4149	68.2	22.3	9.8	32.7	43.8
H4137	68.2	23.1	10.4	33.9	45.0
H4191	67.1	22.7	10.8	33.9	47.6
H4065	72.8	—	11.4	—	—
H4199	63.5	20.6	10.1	32.4	49.1
H4116	66.0	22.3	9.6	33.8	43.0
H4079	74.2	23.5	11.1	31.6	47.3
H4123	68.2	23.5	10.4	34.5	47.3
H4068	71.7	—	11.3	—	—
H4278	64.0	21.4	9.6	33.4	44.8

$$\begin{array}{r}
 683.9 \\
 66.2 \\
 \hline
 C3864
 \end{array}$$

C3509	24.5	11.1	34.4	45.3
C1534	23.3	9.8	35.7	42.0
C1426	23.2	10.5	34.0	45.3

B997	69.1	22.4	10.7	32.4	47.8
H4151	67.0	23.1	10.2	34.4	44.2

$$\begin{array}{r}
 68.1 \\
 13) 886.2 \\
 \hline
 2939
 \end{array}$$

$$\begin{array}{r}
 33.3 \\
 65) 2167.9 \\
 195 \\
 \hline
 217 \\
 125 \\
 \hline
 229
 \end{array}$$

$$\begin{array}{r}
 46.0 \\
 65) 2994.8 \\
 260 \\
 \hline
 394 \\
 390 \\
 \hline
 48
 \end{array}$$

$$\begin{array}{r}
 10.4 \\
 90) 939.4 \\
 90 \\
 \hline
 394 \\
 360 \\
 \hline
 34
 \end{array}$$

FA	JE	3
303.5	9	409.6 9
505.5	15	695.1 15
493.3	15	704.5 15
428.5	13	596.1 13
489.1	13	589.5 13
65) 3167.9	65	2994.8 65

J	E
1568	14
189.1	18
192.4	19
199.0	19
202.1	20
9394	90
1497.5	65

$$\begin{array}{r}
 24.2 \\
 65) 1597.5 \\
 130 \\
 \hline
 277 \\
 260 \\
 \hline
 175 \\
 130 \\
 \hline
 475
 \end{array}$$

Joel Quila coracod

not recorded

V

not recorded

BA CA DA EA FD GA HG EG CB HE GC HA JE

C8023	78.7	59.7	19.5	31.5	61.7	46.7	55.7	66.9	75.9	83.6	79.3	26.4	48.9
H4149	76.7	61.7	18.0	34.0	69.1	46.1	54.2	67.5	80.5	80.3	74.5	24.9	46.3
C3505	78.5	60.4	18.7	34.0	66.9	46.0	55.5	67.4	76.9	82.0	76.1	25.5	51.5
C6801	77.0	60.2	16.9	34.7	77.8	44.9	57.7	70.7	78.2	81.6	74.5	25.9	48.2
C2443	79.4	61.5	18.9	33.7	56.4	47.3	56.8	69.2	77.4	82.3	76.7	26.9	—
C3265	80.0	61.0	19.0	32.6	71.6	46.3	58.5	70.4	76.2	83.3	76.0	27.1	46.6
D3840	79.3	61.2	18.7	31.3	64.5	46.8	53.9	67.0	77.3	80.6	76.5	25.3	45.5
H4267	77.3	61.4	19.5	33.1	59.1	47.9	56.3	69.1	79.4	81.5	78.2	26.9	45.3
H4137	77.6	61.6	20.4	33.1	59.0	44.7	58.7	74.1	79.3	79.4	72.7	26.2	46.1
D2429	78.6	61.6	19.8	33.1	66.2	47.6	58.9	69.4	78.3	82.3	79.5	27.2	49.2
D3498	77.6	60.2	18.8	33.0	66.6	47.5	58.6	69.5	77.4	81.9	79.0	27.0	42.6

78.2 60.8 33.1 65.6 46.5 56.8 69.4 81.7 76.4 47.3
 11 860.7 4705 364.1 72.1 151.6 624.8 771.1 1898.8 847.0 473.2

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701
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683.7
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LA Brea Aquila

Humerus

Left

BONE NO	A GR LENGTH	B BR PROX	C BR DIST	D Deltoid LENGTH	E 2x humeral width Dist. from to distal	B-A	C-A	D-A	EA		Pth 4	Pth 16	Pth 3		Pth 4	Pth 16	Pth 3
D 1302 ⁻³	181.4	—	32.0	65.6	39.5	—	17.6	36.2					181.4				
B 367	183.8	—	32.1	65.2	39.6	—	17.4	36.4									
C 7190 ⁻⁴	202.5	—	34.5	75.1	43.4	—	17.0	37.0		202.5							
C 6799 ⁻⁴	184.0	—	31.5	68.1	39.3	—	17.1	37.0		184.0							
C 4980 ⁻¹⁶	192.0	38.4	33.6	71.5	41.6	20.0	17.5	37.2			192.0						
C 4604 ⁻¹⁶	186.0	—	31.7	65.3	39.4	—	17.0	36.1			186.0						
D 984 ⁻⁴	190.6	36.4	31.9	69.9	41.6	19.1	16.7	36.6		190.6							
D 3477 ⁻²	190.6	—	32.6	67.0	—	—	17.1	36.1									
C 948 ⁻¹⁶	185.0	—	31.3	63.7	39.1	—	16.9	34.4			185.0						
C 941 ⁻¹⁶	190.6	38.2	33.4	70.2	41.2	20.0	17.5	36.8			190.6						
C 951 ⁻¹⁴	190.4	—	32.9	70.7	—	—	17.3	37.1			190.4						
C 1336 ⁻¹⁶	202.3	—	35.2	75.6	44.0	—	17.3	37.3			202.3						
G 1522	194.7	37.8	33.6	71.6	40.3	19.4	17.2	36.8									
B 8388 ⁻¹⁶	187.2	—	32.2	67.8	—	—	17.2	36.2			187.2						
D 1274 ⁻⁴	209.3	42.1	36.5	76.0	45.2	20.1	17.4	36.3		209.3							
C 9022 ⁻⁴	193.2	37.2	33.5	70.5	41.7	19.2	17.3	36.4		193.2							
D 863 ⁻⁴	196.8	—	33.8	72.5	42.7	—	17.2	36.9		196.8							
D 2661 ⁻³	191.0	—	34.1	68.0	40.5	—	17.8	35.5					191.0				
D 3387 ⁻²	190.2	36.5	32.4	66.1	40.1	19.1	17.0	34.7									
D 4438 ⁻¹⁶	176.8	—	30.1	—	—	—	17.0	—									
	380.8	38.0	65.8	132.0	65.9	19.0	34.5	68.8									
	1176.4	1323.6	372.4														
	N=6	N=7	N=2														

total

Pth 4
Pth 16
Pth 3

6 1176.4 7 1323.6 2 372.4
4 769.8 13 2517.3 1 113.9
2 374.2 12 2322.3 1 197.3
1 189.0

12 2318.4 32 6163.1 5 946.6

Pth 4 193.2 = M Pth 16 192.4

12 2318.4 12 111 108 38 36 124

185.0 190.6 196.4

32 6163.1 32 296 288 83

Pth 4 209.3 N=12 Pth 16 191

max 212.2 min 182.0 N=32

modern max 204.5 min 171.9 mean 187.0 N=14

Pth 10 max 198 min 186 mean 191 N=4

1176.4 1323.6 372.4

N=6 N=7 N=2



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LA Brez

Aquila

Humerus

Left

Bone No	A GR Length	B BR PROX	C BR DIST	D Length Deltoid	E Height of Prox. end EXT.	BA	CA	DA	EA		PL 4	PL 16	PL 3						
C 8697-4	188.0	36.4	33.1	71.3	40.2	19.3	17.6	32.9			188.0								
C 3688-16	198.0	38.5	34.7	73.4	43.6	19.4	17.5	37.0				198.0							
D 1332-3	183.9	35.8	31.3	69.0	40.1	19.4	17.0	32.5					183.9						
C 3156-16	195.0	39.0	33.5	73.3	40.9	20.0	17.1	37.5				195.0							
C 3182-16	189.8	38.2	33.4	70.1	41.7	20.1	17.6	37.0				189.8							
D 3413-2	190.2	37.4	33.2	69.7	40.4	19.6	17.4	36.6											
C 1065-16	179.2	35.0	31.1	67.2	38.0	19.5	17.3	32.8				179.2							
C 4947-18	201.2	+	34.7	73.3	43.0	—	17.2	36.4				201.2							
C 2957-16	195.0	—	—	68.6	41.5	—	—	35.2				195.0							
C 4024-18	200.0	40.1	35.2	75.1	43.8	20.0	17.6	37.5				200.0							
C 2122-16	186.6	—	33.7	68.0	40.5	—	18.0	36.4				186.6							
G 2449	186.2	35.1	31.6	67.1	38.8	18.8	16.9	36.2											
C 2162-16	214.9	41.7	37.0	79.3	46.6	19.4	17.2	36.8				214.9							
C 9534-4	184.0	—	—	68.4	—	—	—	37.1			184.0								
C 4066-18	186.0	37.1	32.7	66.2	40.3	19.9	17.5	35.5				186.0							
B 8527-18	190.2	37.5	33.2	70.4	40.0	18.6	17.4	37.0				190.2							
C 8340-4	194.5	—	33.5	70.9	40.0	—	17.2	36.4			194.5								
B 8387-16	185.3	—	32.2	67.1	40.3	—	17.3	36.2				185.3							
C 2064-16	186.1	38.1	32.2	68.0	41.1	20.5	17.3	36.4				186.1							
C 6319-4	196.3	—	33.5	73.8	42.0	—	17.0	37.6			196.3								
											762.8	297.3	183.9						
											N=4	N=13							

3840.4 37.6 599.8 110.2 782.8 19.6 254.5 312.1 735.6

La Brea Aguila Humerus

Left.

	g 1	2 length	3 br prox	4 br distal	5 vertical breadth prox	6 ba	7 ca	8 ea	9 be	10 da	11 retoid	12 Pt 4	13 Pt 16	14 Pt 3
C3070 ⁻¹⁶	189.7	37.2		40.5	19.4		21.3	92.0	36.4	69.1			189.7	
D6579 ⁻¹³	198.0				—		—	—	36.8	73.0				
C5693 ⁻¹⁴	197.2		34.2	43.3	—	17.3	21.9	—	38.1	75.3				
C4979 ⁻¹⁶	199.0	39.3		43.4	19.7		21.8	90.5	37.7	75.1		197.2		
C4080 ⁻¹⁶	182.0		31.5	40.2	—	17.3	22.0	—	37.7	68.6		199.6		
C1804 ⁻¹⁶	200.1				—		—	—	36.6	73.3		182.0		
C947 ⁻¹⁶	182.0		31.4	40.0	—	17.2	21.9	—	38.4	64.5		200.1		
D5199 ⁻¹³	197.3		35.1	42.6	—	17.8	21.4	—	37.3	73.6		183.0		
B8435 ⁻¹⁶	195.1				—			—	37.1	72.5		195.1		
C1810 ⁻¹⁷	212.2	39.8	36.1	42.9	18.7	16.9	20.2	92.7	36.3	77.2		513.2		
D1035 ⁻¹⁴	182.0			38.1	—		20.9	—	36.1	65.7		182.0		
C1080 ⁻¹⁶	179.0		30.7		—	17.1	—	—	38.2	63.0		179.0		
C3160 ⁻¹⁶	191.2	38.2	33.4	43.0	19.9	17.4	22.4	88.8	38.8	68.5		191.2		
D5644 ⁻¹³	201.0	39.7	34.3		19.7	17.0	—	—	37.1	74.5				
C2436 ⁻¹⁴	196.1		35.4	43.1	—	18.0	22.0	—	36.1	70.8		196.1		
B8381 ⁻¹⁶	192.9		34.4		—	17.8	—	—	36.7	70.8		192.9		
C4680 ⁻¹⁶	196.5		33.7	43.7	—	17.1	22.2	—	37.9	74.8				
B9436 ⁻¹⁶	203.0			42.9	—		21.1	—	—	—		203.0		
M	194.1	38.6	12.50	3.7	97.3	12.25	1.93	17.62	4.3	71.2		3792	23.23	
	349.13	119.9	370.2	41.9	19.5	19.53	21.6	17.12	10.3	119.2		N=2	N=12	

Large calipers - Length - 11
U.C.L.A. Sept

Aquila *Modern* *Humeus* Right

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L.A.M.V.P.

Modern Aguila

Humeros

Right

Left

Bone No	a Length	b prox	c br dist	d Length deltoid crest	e vertical breadth proximal	ba	ca					da	be	ea	a Length	b prox	c br dist	d Length deltoid crest	e vertical bread prox.	ba	ca
426	199.1	40.4	36.0	70.5	42.7	20.2	18.0					36.6	94.3	21.5	199.3	40.4	36.3	71.1	42.8	20.2	18.2
1073	204.1	40.7	35.3	73.7	43.0	19.9	17.2					37.6	94.4	21.2	204.7	41.0	35.7	70.9	43.4	20.0	17.4
929	173.6	35.0	31.3	62.1	37.7	20.1	18.0					36.3	93.1	21.7	173.5	35.1	31.2	63.0	37.7	20.2	17.9
468	189.9	39.1	35.2	68.2	41.4	20.5	18.5					37.4	95.6	21.6	190.3	39.3	35.4	65.5	41.1	20.6	18.5
1088	192.7	39.1	35.1	72.3	42.0	20.3	18.2					37.1	93.3	21.8	192.0	39.2	35.1	71.3	42.0	20.4	18.2
241	175.2	34.7	31.4	62.3	37.8	19.7	17.9					37.6	91.7	21.4	176.0	34.6	31.5	60.7	37.7	19.6	17.9
1760	178.1	35.4	31.4	63.2	38.2	19.8	17.4					34.9	92.4	21.6	177.7	35.3	31.3	62.0	38.2	19.8	17.6
1791	188.5	38.9	34.4	67.8	40.6	20.6	18.2					35.0	96.0	21.4	188.7	38.9	34.3	68.7	40.5	20.6	18.1
	187.6			67.5								28.24	21.5		1500.9	37.9		53.32	48.8	20.1	
8)	1500.9		270.18	67.5	32.34		14.3.6					8)	172.1		1500.9	30.38	270.8	53.32	48.8	20.1	14.3.8
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	64			56											60	56		48.8			
	60			41											56	48		48.8			
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22)	4120.3														4120.3						
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1500.9

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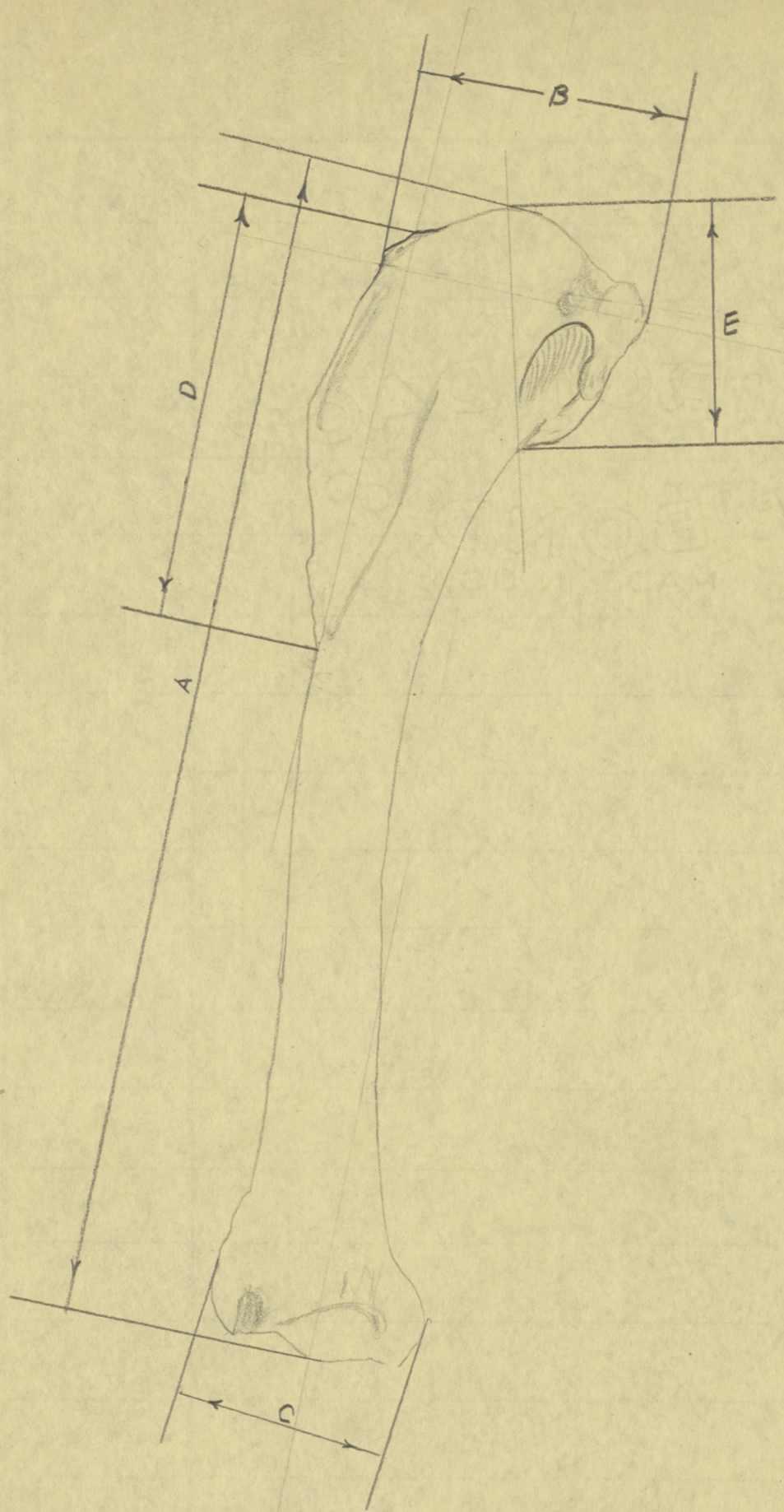
24) 439.0

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210



La Brea Aguila

Humerus

Copied
onto 2 sheets

	gr. length a	br. prox c	br. distal c	vertical breadth prox b	ca	ca	ea	be	Bone No	gr. length a	br. prox b	br. distal c	vertical breadth prox b	ca	ca		Length of Deltoid Left Column d	Length of Deltoid Right Column d
C8697	188.0	36.4	33.1	40.2	19.3	17.6		90.7	D1302	181.4	—	32.0	39.5		17.6		71.3	65.6
C3688	198.0	38.5	34.7	43.6	19.4	17.5		86.3	D367	183.8	—	32.1	39.6		17.4		73.4	65.2
D1332	183.9	35.8	31.3	40.1	19.4	17.0		89.3	C7190	202.5	—	34.5	43.4		17.0		69.0	75.1
C3156	195.0	39.0	33.5	40.9	20.0	17.1			C6799	184.0	—	31.5	39.3		17.1		73.3	68.1
C3182	189.8	38.2	33.4	41.7	20.1	17.6			C4980	192.1	38.4	33.6	41.6	20.0	17.5		70.1	71.5
D3413	190.2	37.4	33.2	40.4	19.6	17.4			C4604	186.0	—	31.7	39.4	—	17.0		69.7	65.3
C1065	179.2	35.0	31.1	38.0	19.5	17.3			D984	190.6	36.4	31.9	41.6	19.1	16.7		67.2	69.9
C4947	201.2	—	34.7	43.0	—	17.2			D3477	190.6	—	32.6	—	—	17.1		73.3	67.0
C2957	195.0	—	—	41.5	—	—			C948	185.0	—	31.3	39.1	—	16.9		68.6	63.7
C4024	200.0	40.1	35.2	43.8	20.0	17.4			C941	190.6	38.2	33.4	41.2	20.0	17.5		75.1	70.2
C2122	186.6	—	33.7	40.5	—	18.0			C951	190.4	—	32.9	—	—	17.3		68.0	70.7
G2449	186.2	35.1	31.6	38.8	18.8	16.9			C1336	202.3	—	35.2	44.0	—	17.3		67.1	75.6
C2162	214.9	41.7	37.0	46.6	19.4	17.2			G1522	194.7	37.8	33.6	40.3	19.4	17.2		79.3	71.6
C9534	184.0	—	—	—	—	—			B8388	187.2	—	32.2	—	—	17.2		68.4	67.8
C4066	186.0	37.1	32.7	40.3	19.9	17.5			D1274	209.3	42.1	36.5	46.2	20.1	17.4		66.2	76.0
B8527	190.2	37.5	33.2	40.0	18.6	17.4			C9022	193.2	37.2	33.5	41.7	19.2	17.3		70.4	70.5
C8340	194.5	—	33.5	40.0	—	17.2			D863	196.8	—	33.8	42.7	—	17.2		70.9	72.5
B8387	185.3	—	32.2	40.3	—	17.3			D2661	191.0	—	34.1	40.5	—	17.8		67.1	68.0
C2064	186.1	38.1	32.2	41.1	20.6	17.3			D3387	190.2	36.5	32.4	40.1	19.1	17.0		68.0	66.1
C6319	196.3	33.5	42.0	—	—	17.0			D4438	176.8	—	30.1	—	—	17.0		73.8	—

①

Fossil *Aquila*
 Min 173.2
 Max 216.6
 Mean 192.3

Sa Rea Aquila Hermin ①
 146 fossil bones

Modern *Aquila* 171.9 min.
 204.5 max
 189.0 mean

Number	M.M. Length Meas.	Pit No.	Other	Data	No.	M.M. Length Meas.	Pit No.	No.	M.M. Length Meas.	Pit No.	No.	M.M. Length Meas.	Pit No.
C 1870	190 ^x	16			B9224 ²	196 ^x	16	C1940	194 ^x	16	D863	197 ^x	4
C 946	204 ^x	16			C4859	194 ^x	16	C4624	187 ^x	16	C2436	196 ^x	16
C 7269	203 ^x	4			B8383	184 ^x	16	C6316	196 ^x	4	C2957	195 ^x	16
C 3038	188 ^x	16			C1913	198 ^x	16	D3413	191 ^x	2	C8340	194 ^x	4
B 9295	189 ^x	16			C4075	201 ^x	16	G1522	195 ^x	2	C2674	178 ^x	16
D 3794	205 ^x	60			B8381	193 ^x	16	D367	184 ^x	4	C5889	188 ^x	4
C 9578	190 ^x	4			D684	198 ^x	4	B8387	186 ^x	16	D3364	201 ^x	2
B 8526	208 ^x	16			C2122	187 ^x	16	C2064	186 ^x	16	C1804	200 ^x	16
C 3753	202 ^x	16			D984	191 ^x	4	D1332	184 ^x	3	C7190	203 ^x	4
D 4928	190 ^x	13 ^x			C9699	192 ^x	16	G1521	187 ^x	2	C5176	184 ^x	4
B 8386	187 ^x	16			C3160	192 ^x	16	C4066	186 ^x	16	C1045	187 ^x	16
C 2954	204 ^x	16			C1813	191 ^x	16	C1972	217 ^x	16	C9659	189 ^x	4
C 4801	203 ^x	16			D3387	191 ^x	2	C7910	173 ^x	4	D601	187 ^x	4
C 1863	193 ^x	16			C3182	191 ^x	16	G1503	198	10	C1152	200 ^x	16
C 3034	198 ^x	16			C3171	192 ^x	16	D6579	198 ^x	13	C936	186 ^x	16
B 9292	200 ^x	16			D3477	191 ^x	16	C3688	198 ^x	16	C5942	190 ^x	4
C 4802	201 ^x	16			C3070	189 ^x	16	C3156	196 ^x	16	C8561	189 ^x	4
D 3425	192 ^x	2			C4980	192 ^x	16	C6319	196	4	C2667	193 ^x	16
C 391	190 ^x	16			C4098	190 ^x	16	C4979	198 ^x	16	B1520	179 ^x	4
B 9712 ²	200 ^x	16			G2449	187 ^x	2	C3239	196 ^x	16	D2478	197 ^x	3

La Brea Aguilera Hummer cont'd

(2)

mm
509.6

length
Meas.

P.T. No

Number

C-2663 198x 16
C-7267 193x 4
C-4786 196x 16
C-340 197x 16
C-5152 196x 4
D-4759 192x 61
D-1306 183x 3
C-945 200x 16
C-2162 215x 16
C-5778 199x 4
C-6253 184x 4
C-6419 183x 4
C-6653 186x 4
C-4947 202x 16
D-1274 210x 4
C-4024 200x 16
C-7468 192x 4
C-1065 179x 16
C-4680 197x 16
C-8424 181x 4

length
Meas.

P.T. No

No.

C-1016 201x 16
D-5644 201x 13
D-2661 191x 3
C-4 20'
C-1993 211x 16
C-6759 193x 4
C-6577 178x 4
C-1810 213x 16
C-6799 184x 4
C-941 191x 16
B-8853 195x 16
C-4099 187x 16
B-8527 190x 16
D-4856 190x 61
B-9458 206x 16
C-2057 185x 16
D-217 184x 4
C-951 189x 16
C-4080 182x 16
C-5693 197x 4
C-948 185x 16

length
Meas.

P.T. No

No.

C-9534 184x 4
C-9663 184x 4
C-947 182x 16
C-6418 186x 4
B-9435 195x 16
C-2060 187x 16
C-1336 202x 16
C-3611 200x 16
B-9451 185x 16
D-1030 202x 4
C-3039 185x 16
B-8388 187x 16
D-1302 182x 3
C-2025 198x 16
D-1035 182x 4
B-8601 184x 16
D-5199 197x 13
C-8945 185x 4
C-4717 186x 16
B-9436 203x 16

length
Meas.

P.T. No

No.

C-2991 187x 16
D-4438 176x 60
B-8385 178x 16
C-1080 179x 16
C-2026 173x 16
C-9022 193x 4
C-1504 198x 10
C-1717 187x 10
C-3761 195x 10

length
Meas.

P.T. No

No.

C-2991 187x 16
D-4438 176x 60
B-8385 178x 16
C-1080 179x 16
C-2026 173x 16
C-9022 193x 4
C-1504 198x 10
C-1717 187x 10
C-3761 195x 10

Modern

B-1241 175x 2
B-1929 174x 0
B-1426 199x 5
B-468 190x 0
B-1073 204x 5
M-2 426x 6
M-2 414x 0
M-11 92x 7
M-23 178x 8
9)16906
186x 7

* Internal
condyle protruding beyond this meas. slightly

$$\begin{array}{r} 66.9 \\ 62.0 \\ 61.0 \\ \hline 62.3 \\ 4) 252 \quad 2(63.0 \\ \hline 24 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 47.0 \\ 45.4 \\ 46.0 \\ 45.7 \\ \hline 184.1(46.1 \\ 4) 184.1(46.1 \\ \hline 16 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 74.2 \\ 69.4 \\ 70.6 \\ 67.9 \\ \hline 281.5 \\ 4) 281.5 \\ \hline 70.3 \end{array}$$

$$\begin{array}{r} 65.7, 6 \\ 62.5 \\ 63.4 \\ 64.2 \\ \hline 255.8 \\ 4) 255.8 \\ \hline 64 \end{array}$$

$$\begin{array}{r} 38.9 \\ 35.8 \\ 34.5 \\ 34.7 \\ \hline 143.9 \\ 4) 143.9 \\ \hline 35.8 \end{array}$$

$$\begin{array}{r} 85.1 \\ 75.3 \\ 76.1 \\ \hline 236.5 \\ 4) 236.5 \\ \hline 59.1 \end{array}$$

$$\begin{array}{r} 45.7 \\ 42.5 \\ 44.5 \\ \hline 132.7 \\ 4) 132.7 \\ \hline 33.2 \end{array}$$

$$\begin{array}{r} 25.1 \\ 28.0 \\ 25.2 \\ \hline 78.3 \\ 4) 78.3 \\ \hline 19.6 \end{array}$$

$$\begin{array}{r} 62.2 \\ 55.2 \\ 58.1 \\ 59.2 \\ \hline 234.7(58.1 \\ 4) 234.7(58.1 \\ \hline 58.1 \end{array}$$

$$\begin{array}{r} 62.2 \\ 55.2 \\ 58.1 \\ 59.2 \\ \hline 234.7(58.1 \\ 4) 234.7(58.1 \\ \hline 58.1 \end{array}$$

$$\begin{array}{r} 12 \\ 23 \\ \hline 35 \end{array}$$

$$\begin{array}{r} 28 \\ 32 \\ \hline 60 \end{array}$$

- 30.3
- 31.0
- 30.7
- 32.0
- 30.3
- 30.1
- 34.1
- 31.7
- 27.8
- 27.8
- 30.8
- 31.9
- 30.1
- 35.0
- 31.7
- 30.4
- 24.8
- 31.1
- 33.3
- 30.0
- 31.1

$$\begin{array}{r} 18 \\ 72 \\ 34 \\ \hline 124 \end{array}$$

$$\begin{array}{r} 8 \\ 9 \\ 1 \\ 7 \\ 4 \\ 8 \\ 1 \\ 3 \\ 1 \\ 8 \\ 8 \\ 7 \\ 1 \\ 1 \\ 3 \\ 7 \\ 3 \end{array}$$

- 29.2
- 28.0
- 29.0
- 27.8
- 29.9
- 30.0
- 28.3
- 29.0
- 27.5
- 30.0
- 28.8
- 28.6
- 28.9
- 30.0
- 30.2
- 27.3

- 46.5
- 43.7
- 45.8
- 46.3
- 45.2
- 42.6
- 42.1
- 45.5
- 44.5
- 43.0
- 48.7
- 46.0
- 44.0
- 44.1
- 48.2
- 46.5

$$\begin{array}{r} 16) 462.5(28.9 + 28.8 \\ \hline 32 \\ \hline 142 \\ 128 \\ \hline 14 \\ \hline 18) 820.3(45.5 \\ \hline 72 \\ \hline 100 \\ 90 \\ \hline 103 \end{array}$$

Pt 10 Aquila hurnei

G1503 ✓ 1980

K3761 ✓ 1982

B177 ✓ 187.0

G3760 186?

G1504 Hal 198.5

G1505 201.2

K3754 195.8

$$\begin{array}{r} 191.0 = \text{MPT 10} \\ 4 \overline{) 766.2} \\ \underline{4} \\ 36 \end{array}$$

Pt A

L 2 Brea Aquil 22
Humerus

Pit A T Blue 29

Blue 29

	A Length	B Breadth prox	C Breadth dist.	D Deltoid	E EXT High of head
--	-------------	----------------------	-----------------------	--------------	--------------------------

A
Length

	186.3	37.3	32.6	67.8	42.1
R	198.9	38.2	—	71.8	42.4
	195.0	38.1	31.8	74.0	42.7

201.5
181.9

RIGHT	190.0	39.6	—	41.0	
3)	570.2	38.2	—	—	
		33.2	—	—	
		38.5	32.4	—	42.8
		36.0	33.2	69.0 ^a	40.2
		38.0		73.2	42.7
		39.5		73.8	41.9
		36.5 ^a		67.3	40.7
		34.4 ^a		—	39.7
		36.3		66.5	40.2
		35.8 ^a		73.0 ^a	41.2

383.4
570.2
190.7
953.6
40

191.7
2) 383.4

ALL MEASUREMENTS
BELOW THIS LINE
ARE FROM FRAGMENTS
AND PROXIMAL AND
DISTAL MEASUREMENTS
ARE NOT FROM SAME
BONE I.E. COLUMN
C. NOT THE SAME
AS B D OR E

Left	36.7	29.7	70.3	40.5
	36.9	31.9		39.7
		32.9		
		31.5		
		32.1		
		30.5	70.6.7	
		32.3		
		32.4		
		31.2		
		30.7		

9th A

Pit 10

BONE No	A Length	B Breadth PROX.	C Breadth DIST.	D Deltaic	E EXT HIGHT	DW
G 1717 ad	187.0	38.3	32.7	68.8	38.6	36.8
K 376 juv	195.5	—	31.4	70.5	40.8	36.0
K 375 8	—	—	—	68.1	38.4	—
	<u>191.2</u>			<u>69.1</u>		
	2) 382.5			3) 2074		
RIGHT						
G 1504 Ad.	198.0	—	—	—	42.8	36.3
G 1505 Ad.	201.5	41.2	35.6	75.4	43.8	37.4
K 3756 Juvi	195.8	—	—	—	—	—
K 3760	—	—	—	68.4	38.2	—
G 1510	—	—	—	72.6	—	—
K 3645	—	—	—	65.8	38.3	—
	<u>195.6</u>			<u>70.5</u>		
	5) 977.8			4) 2822		
	47					
	45					
	27					
	25					
	28					
G 1503	<u>198</u>					

modern
 1 2 754
 39 83
 14 31
 M 189.9
 M 193.5

Humerus p. 4

184
 2
 24
 16

193.5
 187.0
 6.5

189.9
 187
 2.9

✓ 171.9									173	579	173	579
✓ 194.0									178	194	356	388
✓ 204.5									179	588	358	585
✓ 199.0	1	172							181	394	364	980
✓ 192		173	1	1		1	94	1	11	182	198	394
✓ 179	1	74				1	95		111	183	199	740
✓ 198	1	75					96	111	111	1288	202	1188
✓ 182	1	76				1	97	11	11	185	406	930
✓ 200		77				1	98	1	111	372	210	1496
✓ 176	1	78	1	11		1	99	1		187	3180	188
✓ 195	11	79	1	11		11	200		111	188	210	567
✓ 178		80					201		111	297	210	570
✓ 179	11	81	1				02	1	111	378	210	764
✓ 181	11	82	1	11			03	11	11	380	210	768
✓ 186		83	1			11	04		11	191	210	206
✓ 204.2		84	1111	1			05			192	210	208
✓ 200		85	1	1111			06	1		4437	210	211
✓ 182	1	86	11	111			7			2920	210	213
✓ 197		87	1	1111			8	1		3917407189.9	210	215
✓ 181.5		88	1	1			9			39	210	217
✓ 175.2		89	11	111			10	1		350	210	8607
✓ 192.5		90	11	111			11	1		312	210	
✓ 174.0	1	91	1	1111			12			387	210	
✓ 191.0	11	92	1	1111			13	1		311	210	
✓ 172.8	11						14			360	210	
✓ 172.0	11						15				210	

M 188.0
 24) 45128

39) 7407189.9
 39
 350
 312
 387
 311
 860

83) 16068(193.5
 83
 776
 747
 296
 249
 249

$$N_1 = 24$$

$$M_1 = 187$$

$$\text{mod. } M = 3.72$$

d d² fd

$$-15 \quad 225 \quad 225$$

$$-13 \quad 169 \quad 169$$

$$+12 \quad 144 \quad 144$$

$$+11 \quad 121 \quad 121$$

$$-9 \quad 81 \quad 81$$

$$2 - 8 \quad 64 \quad 128$$

$$2 - 6 \quad 36 \quad 72$$

$$2 - 5 \quad 25 \quad 50$$

$$+4 \quad 16 \quad 16$$

$$2 + 3 \quad 25 \quad 50$$

$$+7 \quad 49 \quad 49$$

$$+8 \quad 64 \quad 64$$

$$10 \quad 100 \quad 100$$

$$11 \quad 121 \quad 121$$

$$12 \quad 144 \quad 144$$

$$2 \quad 13 \quad 169 \quad 338$$

$$2 \quad 17 \quad 289 \quad 378$$

$$N = 24$$

$$M = 187$$

$$574 \quad 225 \quad (3.72)$$

$$\begin{array}{r} 4230 \\ 4032 \\ \hline 1980 \end{array}$$

$$M' \text{ vs } M_2$$

$$d/od = 1.31$$

$$N_2 = 39$$

$$M_2 = 190$$

$$M = 1.41$$

La Brea Pit 4

d d² fd

$$-17 \quad 289 \quad 289$$

$$-12 \quad 144 \quad 144$$

$$-11 \quad 121 \quad 121$$

$$-9 \quad 81 \quad 81$$

$$-8 \quad 64 \quad 64$$

$$-7 \quad 49 \quad 49$$

$$-6 \quad 36 \quad 216$$

$$-5 \quad 25 \quad 25$$

$$2 - 4 \quad 16 \quad 32$$

$$-3 \quad 9 \quad 9$$

$$-2 \quad 4 \quad 4$$

$$2 - 1 \quad 1 \quad 2$$

$$+1 \quad 1 \quad 1$$

$$+2 \quad 4 \quad 4$$

$$3 + 3 \quad 9 \quad 27$$

$$+4 \quad 16 \quad 16$$

$$3 + 4 \quad 36 \quad 108$$

$$2 + 7 \quad 49 \quad 98$$

$$+8 \quad 64 \quad 64$$

$$+9 \quad 81 \quad 81$$

$$+10 \quad 100 \quad 100$$

$$+11 \quad 121 \quad 121$$

$$+12 \quad 144 \quad 144$$

$$+13 \quad 169 \quad 169$$

$$+14 \quad 196 \quad 196$$

$$+15 \quad 225 \quad 225$$

$$+16 \quad 256 \quad 256$$

$$+17 \quad 289 \quad 289$$

$$+18 \quad 324 \quad 324$$

$$+19 \quad 361 \quad 361$$

$$+20 \quad 400 \quad 400$$

$$+21 \quad 441 \quad 441$$

$$+22 \quad 484 \quad 484$$

$$+23 \quad 529 \quad 529$$

$$+24 \quad 576 \quad 576$$

$$+25 \quad 625 \quad 625$$

$$+26 \quad 676 \quad 676$$

$$+27 \quad 729 \quad 729$$

$$+28 \quad 784 \quad 784$$

$$+29 \quad 841 \quad 841$$

$$+30 \quad 900 \quad 900$$

$$+31 \quad 961 \quad 961$$

$$+32 \quad 1024 \quad 1024$$

$$+33 \quad 1089 \quad 1089$$

$$+34 \quad 1156 \quad 1156$$

$$+35 \quad 1225 \quad 1225$$

$$+36 \quad 1296 \quad 1296$$

$$+37 \quad 1369 \quad 1369$$

$$+38 \quad 1444 \quad 1444$$

$$+39 \quad 1521 \quad 1521$$

$$+40 \quad 1600 \quad 1600$$

$$+41 \quad 1681 \quad 1681$$

$$+42 \quad 1764 \quad 1764$$

$$+43 \quad 1849 \quad 1849$$

$$+44 \quad 1936 \quad 1936$$

$$+45 \quad 2025 \quad 2025$$

$$+46 \quad 2116 \quad 2116$$

$$+47 \quad 2209 \quad 2209$$

$$+48 \quad 2304 \quad 2304$$

$$+49 \quad 2401 \quad 2401$$

$$+50 \quad 2500 \quad 2500$$

$$+51 \quad 2601 \quad 2601$$

$$+52 \quad 2704 \quad 2704$$

$$+53 \quad 2809 \quad 2809$$

$$+54 \quad 2916 \quad 2916$$

$$+55 \quad 3025 \quad 3025$$

$$+56 \quad 3136 \quad 3136$$

$$+57 \quad 3249 \quad 3249$$

$$+58 \quad 3364 \quad 3364$$

$$+59 \quad 3481 \quad 3481$$

$$+60 \quad 3600 \quad 3600$$

$$+61 \quad 3721 \quad 3721$$

$$+62 \quad 3844 \quad 3844$$

$$+63 \quad 3969 \quad 3969$$

$$+64 \quad 4096 \quad 4096$$

$$+65 \quad 4225 \quad 4225$$

$$+66 \quad 4356 \quad 4356$$

$$+67 \quad 4489 \quad 4489$$

$$+68 \quad 4624 \quad 4624$$

$$+69 \quad 4761 \quad 4761$$

$$+70 \quad 4900 \quad 4900$$

$$+71 \quad 5041 \quad 5041$$

$$+72 \quad 5184 \quad 5184$$

$$+73 \quad 5329 \quad 5329$$

$$+74 \quad 5476 \quad 5476$$

$$+75 \quad 5625 \quad 5625$$

$$+76 \quad 5776 \quad 5776$$

$$+77 \quad 5929 \quad 5929$$

$$+78 \quad 6084 \quad 6084$$

$$+79 \quad 6241 \quad 6241$$

$$+80 \quad 6400 \quad 6400$$

$$+81 \quad 6561 \quad 6561$$

$$+82 \quad 6724 \quad 6724$$

$$+83 \quad 6889 \quad 6889$$

$$+84 \quad 7056 \quad 7056$$

$$+85 \quad 7225 \quad 7225$$

$$+86 \quad 7396 \quad 7396$$

$$+87 \quad 7569 \quad 7569$$

$$+88 \quad 7744 \quad 7744$$

$$+89 \quad 7921 \quad 7921$$

$$+90 \quad 8100 \quad 8100$$

$$+91 \quad 8281 \quad 8281$$

$$+92 \quad 8464 \quad 8464$$

$$+93 \quad 8649 \quad 8649$$

$$+94 \quad 8836 \quad 8836$$

$$+95 \quad 9025 \quad 9025$$

$$+96 \quad 9216 \quad 9216$$

$$+97 \quad 9409 \quad 9409$$

$$+98 \quad 9604 \quad 9604$$

$$+99 \quad 9801 \quad 9801$$

$$+100 \quad 10000 \quad 10000$$

Hummer
length

$$N_3 = 83$$

$$M_3 = 193.5$$

La Brea

Pit 16

20.5

$$2 \quad 15.5$$

$$2 \quad 16.5$$

$$2 \quad 11.5$$

$$9.5$$

$$4 \quad 8.5$$

$$5 \quad 7.5$$

$$8 \quad 6.5$$

$$5.5$$

$$3 \quad 4.5$$

$$3 \quad 3.5$$

$$4 \quad 2.5$$

$$4 \quad 1.5$$

$$3 \quad 1.5$$

$$2 \quad 1.5$$

$$6 \quad 4.5$$

$$6 \quad 4.5$$

$$3 \quad 7.5$$

$$3 \quad 8.5$$

$$2 \quad 9.5$$

$$2 \quad 10.5$$

$$12.5$$

$$14.5$$

$$17.5$$

$$19.5$$

$$21.5$$

$$23.5$$

d/od La Brea Pit 4 vs mod.
1.31

d/od La Brea Pit 16 vs. mod.
1.41

d/od

$$\begin{array}{r} 2148 \\ 1521 \\ \hline 6270 \\ 6084 \\ \hline 1860 \end{array}$$

UCLA
Length Large califers ##
big, geo. califers ## Left

Modern Aquila ulna
Ryft



RT

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$$\begin{array}{r} 198 \\ 198 \\ 195 \\ 187 \\ \hline 4) 778 \\ 194 \end{array}$$

LA Brea Aguila

CARP meta carpus

A B C D

Bone No

C2465	112.4	27.4	24.4	17.2
B9644	102.6	24.3	21.2	15.1
B9471	98.0	23.9	20.5	14.7
B8574	98.6	23.7	20.7	14.8
C4655	105.8	25.8	22.1	16.3
H2663	99.5	25.1	22.0	15.1
C487	105.3	25.8	22.4	15.5
C6840	100.8	25.5	22.1	16.7
B9703	109.8	25.9	22.9	17.2
J8728	110.2	26.4	23.2	16.7
J8735	105.1	26.2	22.8	15.6
D1906	110.7	26.3	22.8	16.9
C4561	100.9	24.7	21.4	16.3
C8337	103.9	25.0	21.7	15.3
D4052	100.1	23.2	20.2	15.2
D5813	105.3	25.4	22.1	10.0
D2919	98.6	24.2	20.6	15.3
H2525	96.7	24.3	21.1	14.5
C3841	111.2	26.3	22.8	—
C522	99.4	24.3	21.0	15.0

Benson

La Brea
 Take to
 top of process
 use in cranium

Aguila

Carpo Metacarpus

A

B

C

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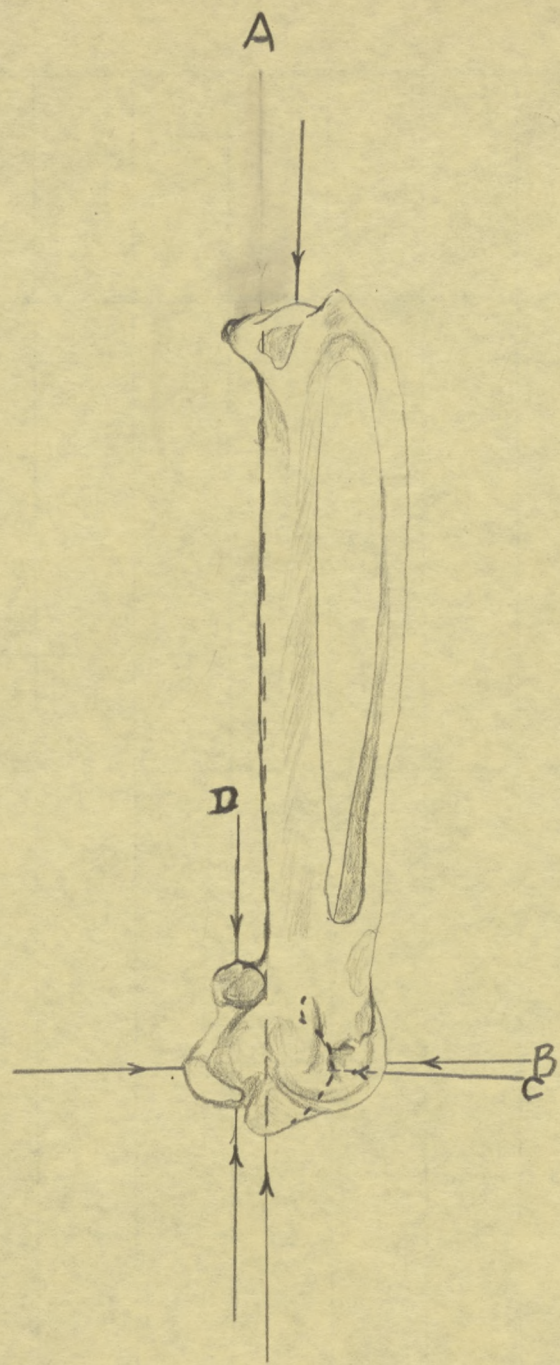
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Bone N°

C 5985	119.3	27.5	24.1	17.5
C 5544	118.1	23.8	20.3	15.2
C 5492	101.1	25.6	22.1	15.9
C 6322	117.0	26.1	22.6	16.4
C 7719	105.6	26.1	22.4	15.6
C 7304	102.8	24.8	21.6	16.1
C 5715	107.2	26.8	23.6	16.9
C 8429	104.4	25.8	22.3	16.7
D 3462	109.2	26.4	23.0	16.8
C 4014	102.1	24.8	21.5	16.1
C 9293	102.4	24.0	21.0	15.9
C 1983	103.3	26.5	23.1	16.8
C 8050	100.7	24.9	21.8	15.3
C 7700	111.9	27.9	24.5	17.3
D 4060	106.2	26.0	23.3	16.5
C 17	104.0	25.2	21.9	16.0
D 2	108.4	25.7	22.6	16.2
D 4978	108.7	26.6	22.8	17.0
D 733	107.5	26.3	23.0	17.1
D 4440	108.8	26.1	22.6	16.5

109.0
 2148.7

Bessern



Modern Aguila

Carpo Metacarpus
/unclear

Right

Left

Bone No.	Right									Left					
	A	B	C							A	B	C			
				ba	ca	bc				Length to distal knuckle on M. 2	Depth head	let head	ba	ca	bc
Bi 1791	105.1	28.3	15.4							104.3	29.3	15.1			55.4
Bi 929	94.9	27.4	14.4							95.0	27.3	13.3			54.7
Bi 468										104.7	27.8	15.4			55.4
Bi 1073	109.5	26.4	15.7							109.2	27.2	17.03			62.53
Bi 827	101.1	26.0	13.1							100.7	26.1	12.8			49.1
Bi 241	96.4	25.5	13.3							96.7	25.6	13.2			51.5
Bi 1760	100.6	25.7	14.0							100.2	25.8	13.8			53.5
										101.5	26.4	14.3			54.6
										710.8	185.1	100.6			382.1

B measurement
Pathological?

" ?

Benson

La Brez Aquila femur
 Pt 10

Left No	Length int	Length ext	Depth of Trochanter	Length of trochanter	Breadth dist
F4384	115.6	120.1	18.2	33.2	21.3
F4376	117.5	122.3	19.1	32.9	21.6
F4381	120.8	124.7	19.0	35.4	22.2
K3744	—	—	—	—	—

Right No	Length int	Length ext	Depth of Trochanter	Length of trochanter	Breadth dist
K3746	122.9	126.9	20.2	34.9	23.3
F4385	120.8	125.0	19.3	34.1	22.3
F4380	117.9	—	—	32.8	21.4
F4377	123.5	—	—	—	24.7
K3745	118.3	122.5	—	—	21.2
F4379	—	125.3	18.7	33.7	21.5
F4383	126.7	131.8	21.5	34.5	25.6

Benson

La Brea

Aquila

left femur

Bone No	Length int.	Length ext.	Depth of trochanter	Length of trochanter	Breadth dist
D 4032	122.3	126.7	20.0	35.1	23.1
C 4076	120.3	124.9	19.3	33.6	23.8
D 5231	126.7	132.2	—	37.5	22.8
D 1799	118.3	122.4	18.2	34.4	21.4
C 4718	117.6	121.8	18.8	33.2	21.6
D 1107	125.7	129.7	20.9	35.7	22.1
C 1087	118.2	122.5	18.8	33.3	21.4
C 3179	118.0	122.9	18.3	34.9	21.4
C 8283	118.8	123.1	20.0	34.4	23.8
C 3005	110.1	114.3	18.6	31.0	21.7
C 3292	115.5	120.3	19.1	33.9	21.8
C 2231	130.2	135.4	—	—	23.6
D 1866	115.6	120.3	—	—	21.8
C 4585	118.4	122.4	19.2	33.1	21.9
C 3702	119.1	114.5	18.4	34.7	20.9
D 6464	123.6	129.4	20.5	35.6	25.2
D 4919	110.6	114.1	17.9	31.8	20.0
D 15	117.5	122.3	18.7	33.0	20.4
C 2030	118.9	124.0	19.1	34.2	22.0
C 5792	126.2	131.1	20.6	36.6	23.0

Benson

La Brea Left femur

Bone No	Length int.	Length ext.	Depth of trochanter	Length of trochanters	Breadth dist.													
C7670	115.6	120.7	18.3	36.1	21.4													
D1028	126.6	131.7	20.4	37.9	24.2													
D1000	124.6	128.8	21.2 ^a	—	24.6													
C1015	117.5	122.1	18.6	32.5	21.4													
C9853	120.0	—	19.0	33.6	21.7													
B4244	114.1	117.7	—	29.0 ^a	17.7													
C7284	124.1	129.7	20.8	35.5	23.8													
B9934	123.0	127.4	19.7	35.6	22.2													
C1120	125.4	130.7	20.0	36.2	23.6													
C9634	123.6	127.9	19.3	35.6	22.7													
F4482	113.4	118.9	19.3	—	21.4													
C6645	110.4	115.2	16.9	31.0	20.7													
D614	120.4	124.2	—	32.8	21.4													
C1977	121.1	125.6	19.5	35.5	22.6													
C3517	120.3	124.4	19.8	34.0	21.5													
C3015	119.5	123.0	19.2	33.5	21.5													
C6663	115.2	118.8	18.1	33.8	20.9													
D2760	122.3	127.5	20.4	35.0	22.7													
C1938	121.8	127.1	—	34.6	21.8													
C4915	123.3	128.7	20.3	34.8	23.5													

Benson

LA Brea Aquila Left femur

Bone No	Length int.	Length Ext.	Depth of trochanter	Length of trochanter	Breadth dist.													
C2076	119.7	124.1	18.8	33.6	22.3													
C8729	122.5	126.7	20.2	35.0	22.8													
C1129	126.1	131.1	21.7	38.2	24.2													
C1217	128.5	133.4	21.1	35.5	23.5													
C9146	122.1	126.0	20.0	34.6	23.8													
D5200	124.6	129.7	20.5	35.7	24.3													
C8727	122.6	127.7	20.5	36.5	24.1													
D1939	117.0	121.2	19.3	34.7	21.0													
D1803	120.5	125.3	—	36.5	23.5													
C4584	117.7	120.7	—	32.7	22.5													
C4019	123.7	128.9	21.0	37.0	22.7													
B8393	124.8	130.0	20.2	36.9	24.4													
C2713	120.1	124.3	18.7	33.9	22.3													
C4730	125.1	130.2	20.0	34.9	22.9													
C1082	121.4	124.5	18.3	34.0	21.4													
C2018	122.6	126.7	20.6	36.6	23.9													
C6324	121.0	125.3	18.9	34.8	22.9													
D2373	119.6	123.2	19.6	35.9	22.0													
C17	120.9	125.6	18.8	34.0	22.0													
C1017	115.8	120.1	17.4	31.9	20.4													

Bessom

La Brea Aquila

Left femur

Bone No	Length int.	Length ext.	Depth of trochanter	Length of trochanter	Breadth dist.													
C 8957	119.8	124.6	—	36.3	23.9													
C 8963	121.4	125.7	19.4	33.7	21.8													
C 8715	125.5	129.9	19.9	34.4	23.7													
C 2073	123.2	128.6	21.2	35.1	23.9													
C 4715	120.2	124.8	19.1	33.4	22.8													
C 3614	117.3	121.7	18.2	33.5	20.7													
C 1121	117.4	122.1	18.8	33.5	21.7													
D 1008	118.4	122.6	18.2	34.2	21.3													
C 3723	122.5	127.6	20.4	34.9	22.8													
C 591	117.8	122.1	18.7	32.5	20.5													
D 3176	118.7	124.1	18.7	33.7	21.3													
C 4818	123.8	128.9	—	34.5	24.0													
C 4935	120.2	124.2	18.2	32.5	21.5													
C 3593	118.0	122.0	18.7	33.4	21.4													
C 6789	122.8	127.2	19.6	34.8	21.8													
C 2005	119.2	123.1	19.3	34.5	21.6													
D 251	119.7	124.5	19.5	34.7	22.4													
C 6519	118.0	122.2	18.8	33.7	21.8													
B 8702	119.6	123.1	19.1	33.6	21.8													
C 4129	115.4	119.7	17.9	30.8	21.3													

Benson

Left femur L2 Brea Aquila

Bone No	Length INT.	Length EXT.	Depth of Trochanter	Length of Trochanter	Breadth Dist.
C 1048	123.2	127.5	—	—	22.8
C 3658	123.6	128.1	—	35.8	22.3
C 4779	123.6	127.6	19.5	34.8	21.9
C 494	123.7	129.3	—	34.0	24.0
D 1271	126.2	130.4	19.1	34.3	23.2
C 4040	129.2	134.7	20.2	34.7	23.5
C 8022	115.1	120.3	17.5	37.1	21.4
D 1333	128.5	134.6	—	36.6	24.4
C 4775	122.4	127.2	18.9	36.9	22.7
C 3055	122.4	127.0	19.6	34.7	22.8
D 3367	120.0	124.6	19.6	35.2	22.2
C 9974	121.8	126.5	20.4	35.6	23.7
B 9932	118.3	—	—	—	23.2
C 3102	119.2	—	19.6	35.2	23.0
C 4911	119.5	124.8	19.6	36.1	23.7
C 5018	118.7	124.0	19.8	33.2	22.1
D 2568	117.0	119.4	18.6	32.6	20.7
C 9918	122.6	127.6	19.0	34.6	22.4
C 4336	124.7	129.9	19.6	37.3	24.6
C 6596	110.7	114.3	17.3	31.7	20.3
243 ¹⁰⁸ ₀₄	228 ¹¹⁸ _{7.8}		9 ⁸ ₆		

Bescom

Left femur, La Brea Aguila

Bone No	Length INT.	Length EXT.	Depth of trochanter	Length of trochanter	Breadth dist														
C 7791	113.6	119.1	20.0	34.1	23.1														
C 7914	126.7	131.4	—	35.1	23.5														
D 372	119.8	124.0	18.3	33.5	21.7														
C 3464	119.4	123.3	18.9	32.5	21.7														
C 2210	116.7	121.4	18.3	32.5	22.3														
D 2364	117.3	121.4	17.6	32.5	21.7														
D 1295	120.0	125.0	—	33.6	22.0														
C 5691	117.4	121.8	18.9	33.5	21.5														
C 2043	124.2	127.8	19.7	37.0	23.3														
D 4999	117.9	122.7	—	34.3	22.0														
D 35	124.3	128.8	19.0	32.9	24.1														
D 5823	120.4	125.7	19.6	34.6	22.9														
D 3647	120.4	125.8	19.7	34.6	24.0														
B 9948	115.6	120.0	18.0	33.0	20.5														
C 7526	125.0	129.7	18.6	35.0	23.3														
D 2617	123.0	126.9	21.0	34.5	23.3														
C 6788	122.3	127.4	21.1	36.5	22.9														
B 9366	117.2	121.5	—	34.0	21.4														
D 3006	121.0	125.4	19.0	33.6	22.3														
D 1264	128.7	133.5	21.4	35.5	24.8														
24109	25026																		

Donor

Left femur

La Brea 2 Aquila

Bone No	Length int.	Length ext.	Depth of Trochanter	Length of Trochanter	Breadth dist
C 8980	120.1	124.8	—	32.8	21.3
C 5658	125.7	130.6	19.7	35.8	23.1
C 8279	122.1	127.0	19.5	31.8	22.0
C 453	125.0	130.3	20.1	36.1	24.8
C 5509	124.5	128.2	21.2	36.5	23.8
C 987	118.9	123.6	19.1	34.2	22.3

 736²²₃ 744²⁵₅

L.A.M.V.P.

MODERN Aquila femur

Left

Right

Bone No	Length int.	Length ext.	Depth of trochanter	Length of trochanter	Breadth Dist.						Length int.	Length ext.	Depth of trochanter	Length of trochanter	Breadth Dist.					
4	120.7	125.2	20.4	34.1	24.7						120.9	125.7	20.1	33.8	25.1					
969	120.6	125	18.5	32.2	21.5						120.8	125	18.1	31.7	21.8					
1073	129.4	133.8	20.5	35.8	25.1						129.6	134.2	20.3	36.1	24.7					
929	114.7	118.4	17	31.7	21.6						114.5	118.3	17.7	31.4	21.4					
468	123.2	126.9	20.6	34.6	24.5						122.9	126.4	20.5	35	24.8					
1088	122.8	126.9	19.8	35.2	23.3						122.8	127	19.4	35	23.1					
241	117.8	122.6	16.7	33.8	21.9						117.7	122.4	17	33.6	21.8					
1760	117.7	121.8	17.7	32.6	21.9						118	122.5	17.9	32.8	21.7					
1791	120.4	124.2	19.1	33.3	23.7						120.5	124.3	18.9	33.5	23.7					
3	127.1	130.9	19.4	35.5	24.5						127.2	131.2	19.3	35.9	25					
897	119.5	122.4	17.5	32.7	21.3						119.4	122.3	17.4	32.8	20.8					

121.0
11) 133.9 137.6
11
22

Benson

U.C.L.A.

Modern Aquila - femur

Left

Right

Bone No	Length Int.	Length Ext.	Depth of Trochanter	Length of trochanter	Breadth Dist.														
975 ✓	133.2	136.9	20.5	36.1	25.5														
899 ✓	118.7	122.2	17.7	31.8	21.1														
1566 ✓	118.9	122.6	18	32.1	22.3														
154 ✓	121.8	126.4	20.2	36.2	24.3														
926 ✓	117.2	122.6	18.4	33.2	22.6														
923 ✓	118.1	122.5	19.9	32.3	22.3														
1900 ✓	124.3	128.9	20	35.7	22.9														
927 ✓	123.8	128.5	20.5	34.3	24														
1442 ✓	127.0	131.5	19.8	36.9	22.7														
474 ✓	117.3	121.1	18.2	32.3	21.6														
1407 ✓	125.7	130.7	20.5	36.6	24														
1420 ✓	122.8	126.6	17.9	33	21														
900 ✓	125.8	129.7	18	34.1	22.7														
1441 ✓	121.3	125.0	17.7	33.4	21.7														
1938 ✓	125.1	129.6	19.5	35.2	23.9														
486 ✓	119.1	122.1	17.7	32.1	21														
471 ✓	121.7																		
679 ✓																			
345 ✓																			
$M = \frac{122.5}{14} = 19.3607$																			
$14 \overline{) 193.608} \quad 20.4779$																			

Bessom

U.C.L.A.

Sept

Modrin aquila Tibia

[illegible]

Trans P 16 ①

Copied from complete list

98.5

98.5

a b a c

✓

✓

✓

✓

✓

C 1833	96.8	21.2	19.4	C 388	97.1	20.9	19.7	C 2125	102.4	20.8	18.7	B 8429	100.3	20.6	18.6	B 9260	97.4	21.0	18.8
B 9241	94.6	21.7	19.5	C 176	99.0	20.2	19.7	C 2101	99.1	23.5	18.7	C 2542	100.0	23.7	21.4	B 8487	101.6	23.2	21.0
B 9528	101.6	22.2	20.8	C 3121	99.4	21.6	19.4	B 8491	102.5	23.5	21.2	C 1312	98.8	20.9	19.4	C 3073	96.4	21.2	18.6
C 85	95.5	21.8	19.6	B 9595	101.0	21.9	20.1	B 9726	98.6	22.9	21.3	B 8406	100.1	21.2	19.2	B 8717	99.3	21.4	19.2
C 2280	97.4	21.7	20.9	B 8588	102.0	22.0	20.3	B 8489	95.6	22.3	19.4	B 9491	101.0	22.4	20.8	B 9863	101.7	21.2	19.9
C 3084	95.7	22.2	20.5	C 1058	99.4	20.9	18.7	B 9264	96.9	21.0	20.3	C 579	101.3	22.6	20.2	C 139	92.4	21.5	14.2
B 9648	92.1	22.4	19.9	C 1265	98.7	20.9	18.8	B 9463	97.6	21.6	19.7	C 959	98.2	21.8	20.1	C 1319	96.4	21.2	20.7
C 2428	96.1	21.9	19.6	B 9603	101.8	22.6	21.0	C 3888	97.1	20.9	19.7	C 2971	99.8	22.1	20.0	C 337	95.9	21.4	20.1
B 9666	97.8	19.9	19.0	B 9782	101.3	20.5	19.0	C 176	99.0	20.2	19.5	C 1155	96.8	22.0	19.4	C 1128	102.6	22.7	20.5
B 8745	96.9	20.6	18.8	C 3115	90.4	22.7	20.4	C 3121	99.4	21.6	19.4	C 2437	95.4	21.7	20.5	C 4174	100.3	20.6	18.6
B 9560	96.8	21.5	19.9	B 9464	102.3	21.1	19.7	B 9595	101.0	21.9	20.1	C 1307	93.9	21.8	20.3	C 564	99.9	22.4	20.1
D 5438	96.3	22.0	20.0	C 1337	97.4	22.0	20.5	B 8588	102.0	22.0	20.3	C 1318	97.6	22.1	20.2	C 117	100.1	21.5	20.3
C 1104	100.5	23.1	20.7	B 9404	102.0	22.0	20.6	C 1058	99.4	20.9	18.7	B 9328	96.8	21.0	19.8	C 3067	94.6	23.8	20.6
C 1024	98.0	21.5	19.7	B 8429	100.3	20.6	18.6	C 1265	98.7	20.9	18.8	D 9677	97.1	21.2	19.0	C 4085	96.1	21.3	19.1
C 956	96.7	20.3	19.2	C 2542	100.0	23.7	21.4	B 9603	101.8	22.6	21.0	C 4568	100.2	20.8	19.3	C 3144	100.5	22.6	20.6
C 4088	97.9	20.6	19.3	C 1312	98.8	20.9	19.4	B 9782	101.3	20.5	19.0	C 44	98.3	21.5	19.8	C 63	98.6	21.7	19.5
C 3433	99.4	20.9	19.8	B 8406	100.1	21.2	19.2	C 3115	90.4	22.7	20.4	B 9722	98.4	21.0	19.0	B 9765	98.1	20.2	19.0
B 9725	96.4	23.1	21.4	B 9491	101.0	22.4	20.8	B 9464	102.3	21.1	19.7	C 3100	101.3	23.2	21.0	C 445	93.2	21.0	19.2
B 8576	100.4	21.2	20.4	C 579	101.3	22.4	20.2	C 1337	97.4	22.0	20.5	C 751	99.4	21.4	18.6	C 3504	98.9	21.5	19.0
C 7103	95.8	22.3	19.9	C 959	98.2	21.8	20.1	B 9904	102.0	22.0	20.6	C 3086	103.4	22.0	19.7	C 4953	98.5	21.5	18.8
	1943.6	432.9	399.8		1991.8	432.15	399.8		434.9	397.0			435.0	396.3				432.9	392.8
	21.6	19.9			21.6	19.8			21.7	19.8			21.7	19.8				21.6	19.6

June 8th 16 second 2

16 bones shorter than shutub from Pit 10 (i.e. 94.6) min. = 90.4

1 " longer " longest 1 " 10 (106.5) max = 109.0

1943.6
1941.8
1984.5
1978.3
1957.5

98.5 M.Dust
19213.5 P.H.P.
1735

1962.6
1988.4
1965.4
1949.2
1472.2
19213.5

1643
1560
1030
973
545
117

✓			19.8	✓				✓							195	1962.6 1988.4 1965.4 1946.2 1472.2 19215.5			1643 1560 1030 973 545 117	180 15
C3162	95.3	21.5	19.6	C937	101.0	20.4	18.3	C32	96.3	21.3	19.5	C4934	104.9	21.4	20.3	C681	100.5	22.5	21.9	
C316	103.4	21.8	20.0	C331	100.4	22.3	20.2	B9571	97.3	22.6	20.6	B9306	96.0	21.4	19.3	C1503	99.4	21.7	19.4	
B8512	99.6	20.5	18.2	B9597	97.8	20.7	18.8	B9412	92.4	21.5	19.4	C4121	99.7	21.3	19.3	C3394	97.8	20.8	19.1	
C393	98.0	21.4	20.9	C1867	107.0	20.3	18.3	B9361	102.3	20.5	18.0	C654	103.2	21.4	19.4	B9783	99.2	21.1	19.1	
B4660	95.1	20.6	19.7	B8529	103.7	21.5	19.9	B8888	92.4	21.6	20.7	C793	98.3	21.4	19.4	C715	96.3	21.4	20.7	
C375	98.6	22.1	19.9	C1139	98.8	21.5	19.4	B8470	99.7	21.6	19.3	C4513	94.3	21.5	20.4	C3240	99.7	21.1	19.8	
B9594	96.7	21.5	18.8	B8585	103.6	22.2	20.5	C1871	99.3	20.9	18.9	C729	92.0	22.1	20.0	C4163	101.1	22.8	20.5	
B9497	99.7	23.5	20.3	B9258	97.9	21.8	20.0	C75	95.5	20.1	19.0	C5757	103.0	23.4	20.8	C4837	94.3	21.7	19.8	
C3289	102.7	23.2	22.0	B9639	97.0	21.4	20.2	C674	93.0	21.9	20.3	C4861	94.8	21.2	18.9	C3427	100.2	21.6	18.7	
C418	103.6	23.6	21.5	B8613	96.4	21.8	19.9	C2170	100.7	23.6	21.7	C4755	96.0	20.8	19.1	C2175	99.2	21.8	18.3	
C4431	95.4	22.0	20.4	C1113	103.2	22.5	20.6	C707	105.1	23.3	20.8	C4010	100.6	20.6	18.9	C540	96.4	20.8	19.0	
C2120	98.5	21.5	19.6	C804	106.1	22.1	20.0	C4682	94.3	22.5	20.1	B358	101.0	23.6	21.0	C4928	96.7	21.4	20.5	
B9955	97.9	19.1	18.0	B9446	100.5	22.8	20.6	C3632	99.0	21.8	20.1	C5012	98.3	22.8	20.5	C4667	97.4	23.4	21.0	
B8571	96.1	21.4	19.8	B9244	96.1	22.5	21.6	B9499	99.4	21.1	19.2	C3455	101.3	21.2	19.4	C3536	96.7	21.2	19.3	
C45	99.5	21.9	20.4	B9428	101.2	20.0	17.6	C341	99.3	22.2	21.6	C3543	95.8	21.6	19.3	C3752	96.6	21.1	19.5	
C127	93.2	21.4	19.8	B8524	99.0	21.7	19.2	C4285	95.0	22.8	20.1	C3794	97.8	21.7	19.5					
C83	99.8	20.5	19.7	C2799	98.0	22.4	20.1	C4916	103.7	21.1	19.2	C646	96.1	23.3	21.2					
B8438	96.1	24.4	21.4	B9640	96.1	21.2	19.4	C1181	103.3	23.6	21.1	B9242	95.5	21.5	20.8					
B9772	98.7	21.6	20.1	B9287	94.3	23.0	21.1	C582	102.3	21.1	19.2	C2197	102.5	20.6	19.0					
B9477	96.1	21.9	20.1	C89	96.1	21.8	20.9	C4124	97.1	21.2	19.2	C4734	99.1	22.2	21.3					
	192.6	43.5	21.7		198.9	43.9	21.7		198.5	43.6	21.8		199.7	43.5	21.7					

1192
1172
3237
2986
21.5
19.7

Pit 10

Left tarsometatarsi - La Brea Aquila

M=99.9											
Bone No	A Length	B Breadth prox.	C Breadth Dist	RATIO B/A	RATIO C/A	Bone No	A Length	B Breadth prox.	C Breadth Dist	RATIO B/A	RATIO C/A
K 3750	99.6	22.8	20.4	22.9	20.5	K 3581	96.2	22	19.5	22.8	20.2
G 2659	100.2	24.4	21.5	24.3	21.4	G 2639	103.1	20.5	19	19.8	18.4
K 3737	103.2	21.5	19.6	20.8	18.9	G 2687	94.6	21.1	19.3	22.3	20.4
G 2691	99.1	22.3	20.4	22.5	20.6	G 2682	96.5	20.8	18.9	21.5	19.5
G 2647	Too badly broken					G 2669	97.7	22	20.1	22.5	20.5
G 2650	101.3	22.8	21.1	22.4	20.8	G 2661	102.5	22.9	20.8	22.3	20.2
G 2629	106.8	24.5	21.9	23.0	20.0	G 2685	92.7	21.7	19.9	22.2	19.3
K 3735	96.3	22.1	20.5	22.9	21.3	G 2631	98.0	20.4	18.4	20.8	18.7
G 2666	103.4	22.4	20.2	21.6	19.5	M 99.9					
K 3736	99.2	22.6	20.5	22.8	20.6	9863					
G 2671	98.7	20.8	18.7	21.0	18.9	16114					
G 2826	102.4	20.5	19.6	20.0	19.1	24) 2397.7					
G 2663	104.0	22.5	20.5	21.4	19.7	216					
G 2652	102.9	25.2	21.3	24.5	20.7	237					
G 2693	Too badly broken					216					
G 2688	96.9	20.3	18.8	20.8	19.4	217					
G 2653	Too badly broken					216					
G 2655	" " "					max 106.8					
G 2684	99.2	22.7	20.6	22.8	20.7	min 94.6					
G 2658	98.2	21.7	20.3	21.8	20.7	mean 99.9					
16114						24) 5299 48					
355.7 3228						24) 480.0 48					
						24.5 21.4					
						19.8 18.4					
						22.0 20.0					

Also 29 Aquila tarin

Length taken to middle toe & claw

Left

✓ 100.5

✓ 102.0

✓ 103.8

95.8

✓ 96.3

96.8

99.1

6) 595.0
595

Right

✓ 96.2

✓ 99.6

✓ 101.9

✓ 97.2

102.0

99.3

5) 496.9

595.0

11) 109.69 / 99.2
99
101.9
99
2.9

3 Left P. A. 297.1

6 11 Blue 29 595.0

1892.1 (99.1)

13 LTR P. A. 1284.8

11 LTR Blue 29 1091.9

2.4) 2376.7 (99.0)
216
216
216

LAMVP

MODERN AQUILA tarsometatarsi

Left

Right

Bone No	A Length 100.4	B Breadth PROX	C Breadth DISC.	Ratio B to A	Ratio C to A	Bone No	A Length	B Breadth PROX	C Breadth DISC.	Ratio B to A	Ratio C to A
969 ^{juv}	100.5	21.0	18.5	20.8	18.4	♂?	101.1	21.3	19.1		
1573 ^{juv}	105.2	24.6	22.6	23.3	21.4	+	105.2	24.8	22.4		
468 ^{River} ^{cal}	99.3	23.4	20.9	23.6	21.0	♀?	99.3	23.9	21.3		
929 ^{juv} ^{cal}	96.1	21.3	18.7	22.1	19.4	-	96.6	21.3	19.0		
1088 ^{cal}	101.5	24.1	21.9	23.7	21.6	♀?	102.0	24.0	21.8		
241 ^{cal}	96.3	21.4	19.2	22.2	19.9	+	96.2	21.7	19.3		
1760 ^{cal}	98.2	21.4	19.1	21.8	19.5	-	97.5	21.4	19.4		
1791 ^{N.M.V.} [♀]	98.8	23.8	21.5	24.1	21.7	+	98.4	23.6	21.4		

$$\begin{array}{r}
 99.4 \\
 8) 795.7 \\
 \underline{72} \\
 75 \\
 \underline{22} \\
 33
 \end{array}
 \quad
 \begin{array}{r}
 22.6 \\
 118.10 \\
 \underline{16} \\
 21 \\
 \underline{16} \\
 50
 \end{array}
 \quad
 \begin{array}{r}
 20.3 \\
 162.4 \\
 \underline{18} \\
 31
 \end{array}
 \quad
 \begin{array}{r}
 22.9 \\
 183.1 \\
 \underline{14} \\
 29
 \end{array}
 \quad
 \begin{array}{r}
 20.3 \\
 142.9
 \end{array}$$

$$\begin{array}{r}
 99.5 \\
 8) 796.3 \\
 \underline{72} \\
 76 \\
 \underline{22} \\
 43
 \end{array}
 \quad
 \begin{array}{r}
 22.7 \\
 182.0 \\
 \underline{16} \\
 22 \\
 \underline{16} \\
 60
 \end{array}
 \quad
 \begin{array}{r}
 20.4 \\
 143.7
 \end{array}$$

$$\begin{array}{r}
 795.7 \\
 1615.8 \\
 24) 2411.5 \\
 \hline
 542.2 \\
 489.0 \\
 540.4 \\
 486.3
 \end{array}$$

M	100.4	22.6	20.3	22.5	20.3
max.	108.7	25.1	23.0	25.1	22.0
min.	96.1	20.9	18.5	20.8	18.4

Benson

UCLA.

M M tarso metatarsi Recent
 M 27.6 20.4 M M
 Left 22.3 20.1 M 101.0/22.6/20.4/22.3/20.1
 Right

13)59
 52

Bone No	A Length 100.4	B Breadth Max	C Breadth Dist.	Ratio B/A	Ratio C/A		A Length	B Breadth	C Breadth	Ratio B/A	Ratio C/A								
1560 Oregon	99.8	21.4	19.8	21.4	19.8	8?	99.5 ^a	20.9	19.6	21.0 ^a	19.7 ^a								
1407 Oregon	104.2	23.9	21.6	22.9	20.7	9?	104.6	24.1	21.7	23.1	20.7								
923 Oregon	98.7	21.7	19.8	21.9	20.0	9?	99.1	21.7	19.4	21.9	19.5								
1441 Mojave Desert	100.0	22.5	19.5	22.5	19.5	8?	100.0	22.4	19.5	22.4	19.5								
975 Oregon	108.7	25.1	23.0	23.1	21.1	9?	108.5 ^a	25.2	22.6	23.2 ^a	20.8								
1442 Malheur Desert	102.4	22.9	21.1	22.3	20.6	9?	102.0	22.9	20.8	22.4	20.4								
679 ♂	101.0	21.2	19.2	21.0	19.0	-	101.3 ^a	21.0	19.2	20.7	18.9								
1938 ♂	98.5	23.4	21.2	23.7	21.5	9?	98.9	23.4	21.1	23.6	21.3								
900 Oregon	102.3	22.9	20.5	22.3	20.0	9?	102.3	22.8	20.7	22.2	20.2								
1900 ♂	101.6	23.3	21.6	22.9	21.2	+	101.6	23.4	21.4	23.0	21.0								
474 ♂	97.8	21.3	19.1	21.7	19.5	-	98.2	21.4	19.4	21.8	19.7								
926 Oregon	99.1	21.2	19.2	21.3	19.3	8?	98.8	21.1	19.1	21.3	19.3								
927 Oregon	101.4	24.1	21.3	23.7	21.0	9?	101.5	24.1	21.4	23.7	21.1								
899	97.8	21.2	19.4	21.6	19.0	8?													
421 ♀	100	24.2	22.0	24.2	22.0	+													
1420 Ruminant	100.5	20.9	19.3	20.8	19.2	8?	101.0	22.6											
	100.9	22.6	20.4	33.7	32.3		101.0	22.6											
	164.58	36.12	32.66	37	32		131.63	29.44	26.59	29.03	26.21								
		32		32	32			26		26									
		41						34		30									
		32						26		26									
		92						81		43									

Bessom

nodum aquila tarsi

known sexes

sexes estimated

♂ 101.0 21.7 19.90 Calif
97.8 21.7 19.5 aig
(96.1) 22.5 19.4 Calif
98.0 21.8 19.5 Calif

98.2 21.6 19.3

4) 399.9 86.6 77.4

♀ ~~101.5~~ 23.7 21.6
101.6 22.9 21.2 200
100.0 24.2 22.0 ?
105.2 23.3 21.4 200
(96.3) 22.2 19.9 Calif
98.8 24.1 21.7 Nimm.

100.4 23.3 21.2

5) 501.9 116.7 106.2
101.5 23.7 21.6

100.5 23.4 21.3
6) 603.4 140.4 127.8

♂ 99.8 21.4 19.8
98.7 21.9 20.0
7 (100.0 22.5 19.5)
99.1 21.3 19.3
97.8 21.6 19.0
100.5 20.8 19.2

99.1 21.4 19.4

5) 495.9 107.0 97.3
100 22.5 19.5

99.3 21.6 19.5
6) 595.9 129.5 116.8 ?

♀ 104.2 22.9 20.7
108.7 23.1 21.1
102.4 22.3 20.6
98.5 23.7 21.5
102.3 22.3 20.0
101.4 23.7 21.0
99.3 25.1 21.0
101.5 23.7 21.6

102.3 23.3 20.9

8) 818.3 186.8 167.5
100.0 22.5 19.5

102.0 23.2 20.7

9) 918.3 209.3 187.0 ?

LW
Opuntia Pt 4 Tarsi from long list attached

C 7961 103.3	C 7956 95.3	C 5418 100.1	C 8002 95.7	C 9238 102.7
C 7976 102.8	C 8972 95.9	C 9856 102.9	C 8732 97.1	C 9705 97.3
C 7512 100.2	C 5306 100.1	C 5333 98.7	C 9240 102.3	C 8802 98.4
C 9461 102.0	C 9269 99.4	C 8775 96.1	D 725 96.9	C 9282 96.5
C 8584 98.6	C 5401 92.4	C 5719 95.8	C 9029 99.9	C 9177 96.6
C 7586 97.5	C 5460 98.3	C 7055 95.0	C 6534 102.1	C 6204 99.3
C 7912 101.3	C 5909 96.3	C 5919 103.7	C 6133 101.4	C 5223 92.9
C 7930 98.1	C 5413 95.1	D 5681 101.8	C 6526 97.8	C 5334 100.9
C 9114 99.1	D 135 97.6	D 187 97.0	C 5419 97.1	C 7655 97.1
C 9934 100.1	C 9843 98.7	C 5840 99.8	C 5464 96.3	D 732 99.0
D 1026 103.3	C 7932 102.4	C 5236 99.5	C 7595 99.5	C 9432 99.6
C 5807 99.2	C 9175 97.4	C 9653 96.8	C 8381 100.6	C 6455 97.5
C 8889 93.8	D 152 99.0	C 7740 99.4	C 6536 98.7	C 5171 99.7
D 985 101.0	C 6658 103.8	D 53 99.5	C 6878 98.5	C 9025 97.4
D 754 95.0	D 986 99.0	C 7143 96.6	C 9170 100.1	D 718 99.6
C 7521 97.3	D 992 101.2	C 7664 97.8	D 222 100.5	C 8277 100.0
C 87 105.3	C 6236 99.7	C 9452 104.6	D 400 98.7	C 7182 97.4
C 75 100.5	C 6338 102.7	C 9720 103.0	C 9136 96.0	C 6773 94.5
C 7673 95.7	C 6754 97.1	C 9326 98.5	C 7964 98.4	C 6480 97.6
C 7699 92.3	C 9368 100.1	C 7181 97.4	C 8717 103.0	C 5463 101.2
D 880 97.4	D 252 91.3	C 9978 98.2	C 5897 98.6	C 8369 95.5
D 270 95.3	D 260 96.3	C 7473 102.0	C 7036 96.5	C 6424 97.4
C 9582 97.9	C 5736 99.3	C 8815 97.7	C 6504 101.4	C 8296 97.3
C 5659 104.1	C 5908 97.7	C 9148 100.4	C 6539 96.3	C 8558 101.4
C 8953 102.8	C 5423 97.9	C 8048 97.9	D 180 97.9	C 9023 100.4
C 9105 99.2	C 7718 95.8	C 8570 100.2	C 6524 96.7	C 9099 101.4
C 6854 99.9	C 5938 98.5	C 9268 99.5	C 6669 97.0	C 6547 94.6
C 8829 101.9	D 862 101.8	C 9690 100.0	C 5435 100.3	C 7045 97.3
C 7662 99.4	C 9933 100.0	C 9543 92.0	C 5241 97.7	D 169 97.3
C 8959 95.1	C 9085 100.2	C 9495 100.6	C 6810 102.1	D 1213 94.4
C 6805 97.6		C 8854 97.0	C 6017 98.7	C 7262 102.3
C 5183 98.2		D 199 95.8		N = 33 3237.0
N = 32 3175.5	N = 30 2952.3	N = 32 3165.3	N = 31 3063.8	Total 15,593.9 N = 158 M = 98.6

Numbers in left hand margin are Pct no.
 Left tarsometatarsi - La Brea Aguilas

Bone no.	a Length	b Breadth prox.	c Breadth dist.	Ratio b/a	Ratio c/a	Bone no.	a Length	b Breadth prox.	c Breadth dist.	Ratio b/a	Ratio c/a	Bone No.	a Length	b Breadth prox.	c Breadth dist.	Ratio b/a	Ratio c/a
4E 7961	103.3	22.3	19.9	21.5%	19.2%	C 2542(16)	100	23.7	21.4	23.7	21.4	D 4042 ⁶⁰	98.1	20.6	18.8	21.0	19.1
4C 7976	102.8	22.1	20.6	21.5	20.1	C 7912(4)	101.3	23.4	21.4	23.0	21.1	D 9854	101	22.8	20.4	22.5	20.2
WD 4084	100.8	22.3	19.4	22.1	19.2	D 8976(3)	98.8	20.4	18.7	20.4	18.9	B 8491 ¹⁶	102.5	24.1	21.8	23.5	21.2
4C 7512	100.2	22.4	19.7	22.3	19.6	C 7930(4)	98.1	23.3	21.7	24.0	22.1	B 9726 ¹⁶	98.6	22.6	21	22.9	21.3
16B 9595	101	22.1	20.3	21.9	20.1	D 4635 ⁽⁶⁰⁾	97	22.4	20.3	23.1	20.9	B 8489 ¹⁶	95.6	21.4	18.6	22.3	19.4
13D 4938	99.1	22.7	21	22.9	21.2	C 1312(6)	98.8	20.7	19.2	20.9	19.4	D 7544	95	19.4	18.4	20.4	19.3
16B 8588	102	22.5	20.7	22.0	20.3	B 8406(16)	100.1	21.3	19.3	21.2	19.2	B 9264 ¹⁶	96.9	20.4	19.7	21.0	20.3
4C 9461	102	22.7	20.6	22.2	20.2	D 4001(60)	98.4	23	20.2	23.4	20.5	B 9463 ¹⁶	97.6	21.1	19.3	21.6	19.7
16C 1058	99.4	20.8	18.6	20.9	18.7	C 9116(4)	99.1	21.1	19.4	21.2	19.5	D 4645 ⁶⁰	92.4	20.6	17.9	22.3	19.3
10C 1265	98.7	20.7	18.6	20.9	18.8	B 9491(16)	101	22.7	21.1	22.4	20.8	C 2971 ¹⁶	99.8	22.1	20	22.1	20.0
16B 9603	101.8	23	21.3	22.6	21.0	C 579(16)	101.3	23	20.5	22.6	20.2	C 1155 ¹⁶	96.8	21.3	18.8	22.0	19.4
4C 8584	98.6	21.9	18.3	22.2	18.5	C 959(16)	98.2	21.2	19.8	21.8	20.1	C 7521 ⁴	97.3	21.1	19.3	21.7	19.8
16B 9782	101.3	20.8	19.3	20.5	19.0	C 9934(4)	100.1	22.2	21.3	22.1	21.2	C 2437 ¹⁶	95.4	20.7	19.6	21.7	20.5
10C 3115	90.4	20.5	18.5	22.7	20.4	D 1026(4)	103.3	22.8	21.7	22.0	21.0	C 8710 ⁴	105.3	23.4	21	22.2	19.9
4C 7586	97.5	21.5	19.2	22.0	19.7	C 2125(6)	102.4	21.3	19.2	20.8	18.7	D 4079 ⁶⁰	100.3	23	21.4	21.3	21.3
16B 9464	102.3	21.7	20.2	21.1	19.7	C 5807(4)	99.2	20.8	18.9	20.9	19.0	C 7514 ⁴	100.5	23.3	20.4	23.2	20.2
60D 3709	100.8	23.7	21	23.5	20.8	C 2101(16)	99.1	21.2	18.6	23.5	18.7	C 1307 ¹⁶	93.9	20.5	19.1	21.8	20.3
16C 1337	97.4	21.4	20	22.0	20.5	C 8839(4)	93.8	21	19.1	22.3	20.3	C 1318 ¹⁶	97.6	21.6	19.7	22.1	20.2
16B 9404	102	22.5	21.1	22.0	20.6	D 6378(13)	97.9	21.6	19.3	22.1	19.7	B 9328 ¹⁶	96.8	20.4	19.2	21.0	19.8
16B 8429	100.3	20.7	18.7	20.6	18.6	D 4433(60)	95.3	20.8	18.6	21.8	19.5	D 9677 ¹⁶	97.1	20.7	18.5	21.2	19.0

Left tarsometatarsi - La Brea

Avila

P-2

♂ c. 21.3 ?
♀ c. 20.7

Bone No.	A Length	B Breadth Prox.	C Breadth Dist.	Ratio B to A	Ratio C to A	Bone No.	A Length	B Breadth Prox.	C Breadth Dist.	Ratio B to A	Ratio C to A	Bone No.	A Length	B Breadth Prox.	C Breadth Dist.	Ratio B to A	Ratio C to A
PR17 D 6672 (6)	94.2	20.7	18.8	22.0	19.9	C 91 05 (4)	99.2	21	19.1	21.0	19.2	C 5306 (4)	100.1	21.4	19.3	21.3	19.2
PR16 C 1833 (16)	96.8	20.6	19.3	21.2	19.9	B 87 45 (16)	96.9	20	18.2	20.6	18.8	C 92 69 (4)	99.4	23.4	21.5	23.5	21.6
PR4 C 7673 (4)	95.7	22.9	20.2	23.4	21.1	B 95 60 (16)	96.8	20.9	19.3	21.5	19.9	C 54 01 (4)	92.4	19.5	18.8	21.1	20.3
PR13 D 5685 (3)	98.6	23.3	21.2	23.6	21.4	D 42 75 (16)	99.1	22.4	20	22.6	20.0	C 54 60 (4)	98.3	21.1	19	21.4	19.3
PR16 B 8407 (16)	98.2	23.7	21.3	24.1	21.7	D 54 38 (16)	96.3	21.2	19.3	22.0	20.0	C 40 88 (16)	97.9	20.2	18.9	20.6	19.3
PR4 C 7699 (4)	92.3	20.9	18.8	22.6	20.4	D 46 67 (16)	98.3	23.1	21.1	23.5	21.4	C 59 09 (4)	96.3	22	19.1	22.8	19.8
PR16 B 9241 (16)	94.6	20.5	18.5	21.7	19.5	D 50 08 (13)	96.3	20.3	18.6	21.0	19.3	C 34 33 (16)	99.6	20.9	19.8	20.9	19.8
PR4 D 880 (4)	97.4	21.3	20.6	21.8	21.1	D 39 95 (16)	94.7	19.9	17.6	21.0	18.5	C 54 13 (4)	95.1	21	18.8	22.0	19.7
D 6882 (77)	94.8	20.4	18.9	21.5	19.9	D 69 35 (17)	103.5	21.8	20	21.1	19.3	B 97 25 (16)	96.4	22.3	20.7	23.1	21.4
B 9528 (16)	101.6	22.6	21.2	22.2	20.8	C 68 54 (4)	99.9	20.6	19.2	20.6	19.2	D 26 12 (13)	91.5	19.6	17.8	21.4	19.4
C 85 (16)	95.5	20.9	18.8	21.8	19.6	C 11 06 (16)	100.5	23.2	20.8	23.1	20.7	B 85 76 (16)	100.4	21.3	20.5	21.2	20.4
C 2280 (16)	97.4	21.2	20.4	21.7	20.9	C 10 24 (16)	98	21.1	19.3	21.0	19.7	C 41 03 (16)	95.8	21.4	19.1	22.3	19.9
C 3084 (16)	95.4	21.2	19.6	22.2	20.5	C 88 29 (4)	101.9	24.5	22.9	24.0	22.5	D 135 (4)	97.6	20.7	19.2	21.2	19.4
B 9648 (16)	92.1	20.7	18.4	22.4	19.9	C 76 62 (4)	99.4	23.7	21.8	23.9	21.9	C 98 43 (4)	98.7	20.7	18.1	20.9	18.3
D 270 (4)	95.3	20.2	18.5	21.2	19.4	C 89 59 (4)	95.1	20.2	19.1	21.2	20.0	D 52 89 (13)	102.8	21.3	19.8	20.9	19.3
C 2428 (16)	96.1	21.1	18.9	21.9	19.6	C 68 05 (4)	97.6	22.5	20.1	23.0	20.6	D 34 43 (2)	105.3	23.7	21.9	22.5	20.8
C 9582 (4)	97.9	21.1	19.6	21.5	20.0	C 51 83 (4)	98.2	22.7	21.1	23.1	21.5	C 38 88 (16)	97.1	20.3	19.2	20.9	19.7
C 5659 (4)	104.4	22.4	20.9	21.4	20.0	C 95 6 (16)	96.7	19.7	18.6	20.3	19.2	C 79 32 (4)	102.4	22.7	20.3	22.1	19.8
C 8953 (4)	102.8	23.3	21.4	22.6	20.8	C 79 56 (4)	95.3	20.8	18.7	21.8	19.6	C 176 (16)	99	20	19.3	20.2	19.5
B 9666 (16)	97.8	19.5	18.6	19.9	19.0	C 89 72 (4)	95.9	20	17.8	20.8	18.5	C 31 21 (16)	99.4	21.5	19.3	21.6	19.4

405.4

4009

1744 26 2718 14

396.5 = 20.04

Left tarsometatarsi - La Brea Aquila

Bone No.	A Length	B Breadth PROX.	C Breadth DIST.	RATIO B to A	RATIO C to A	Bone No.	A Length	B Breadth PROX.	C Breadth DIST.	RATIO B to A	RATIO C to A	Bone No.	A Length	B Breadth PROX.	C Breadth DIST.	RATIO B to A	RATIO C to A
C 4568 (16)	100.2	20.9	19.4	20.8	19.3	B 87 17 (16)	94.3	20.2	18.1	21.4	19.2	C 3067 (16)	94.6	21.6	19.5	23.8	20.6
C 9175 (4)	97.4	20.8	19.1	21.4	19.4	B 98 63 (16)	101.7	21.6	20.2	21.2	19.9	C 4085 (16)	96.1	20.5	18.4	21.3	19.1
D 152 (4)	99	20.7	19	20.8	19.2	C 5265 (4)	96.8	20.1	18.7	20.7	19.3	C 7718 (4)	95.8	20.7	18.4	21.6	19.2
C 6658 (4)	103.8	22.8	20.8	22.0	20.0	C 139 (16)	92.4	19.9	17.8	21.5	19.2	C 5938 (4)	98.5	19.9	18	20.5	18.3
D 6614 (6)	102	23	20	22.5	19.4	C 1319 (16)	96.4	20.5	20	21.2	20.7	D 862 (4)	101.8	20.3	19.4	19.9	19.0
C 44 (16)	98.3	21.2	19.5	21.5	19.8	C 337 (16)	95.9	20.6	19.3	21.4	20.1	C 3144 (16)	100.5	22.7	20.7	22.6	20.6
D 986 (4)	99	20.7	18.8	20.9	19.0	C 9368 (4)	100.1	24.2	21.5	24.1	21.4	D 6199 (13)	103.1	23.3	20.8	22.4	20.1
D 992 (4)	101.2	21.1	18.9	20.8	18.6	D 6764 (6)	97.7	21.2	19	21.7	19.4	C 9933 (4)	100	20.8	19.4	20.8	19.4
B 9722 (16)	98.4	20.7	18.7	21.0	19.0	D 1337 (3)	99.6	21.3	19.4	21.4	19.4	C 9085 (4)	100.2	23.5	21.5	23.4	21.4
C 6236 (4)	99.7	20.4	18.7	20.4	18.9	D 252 (14)	91.3	22.2	20.3	24.3	22.2	C 5418 (4)	100.1	20.8	18.6	20.8	18.6
C 6338 (4)	102.7	23.2	20.5	22.6	19.9	D 260 (4)	98.3	20.1	18.8	20.4	19.1	C 63 (16)	98.6	21.4	19.3	21.7	19.5
C 3100 (16)	101.3	23.5	21.3	23.2	21.0	C 1128 (16)	102.6	23.3	21.1	22.7	20.5	D 2450 (3)	98.4	21.9	19.6	22.2	19.9
C 6754 (4)	97.1	20.9	19	21.5	19.5	C 5736 (4)	99.3	21.2	19.5	21.3	19.4	B 9965 (16)	98.1	19.9	18.7	20.2	19.0
D 1809 (3)	94.9	20.6	19.2	21.7	20.2	D 5728 (13)	103.1	24.1	21.7	23.3	21.0	C 9856 (4)	102.9	24.2	21.2	23.5	20.6
C 751 (16)	99.6	21.4	18.6	21.4	18.6	C 5908 (4)	97.7	20.5	19	20.9	19.4	C 5333 (4)	98.7	20.4	18.8	20.6	19.0
C 3086 (16)	103.4	22.8	20.4	22.0	19.7	C 4176 (16)	100.3	20.7	18.7	20.6	18.6	C 445 (16)	93.2	19.6	17.9	21.0	19.2
D 6686 (6)	96.5	19.9	18.4	20.6	19.0	C 564 (16)	99.9	22.4	20.1	22.4	20.1	C 8775 (4)	96.1	21.9	20.2	23.7	21.0
B 9260 (16)	97.4	20.5	18.3	21.0	18.8	D 6294 (13)	101.3	23.7	20.9	23.4	20.6	C 3504 (16)	98.9	21.3	18.8	21.5	19.0
B 8487 (16)	101.6	23.6	21.4	23.2	21.0	C 117 (16)	100.1	21.5	20.3	21.5	20.3	C 5719 (4)	95.8	19.5	20.2	20.3	21.0
C 3073 (16)	96.4	20.5	18	21.2	18.6	C 5423 (4)	97.9	20.5	18.3	20.9	18.7	C 4953 (16)	98.5	21.2	18.6	21.5	18.8

389.1

398.7

592.3 / 19.6 cm

Left tarsometatarsi

La Brea

Aquila

BONE NO	A Length	B Breadth PROX.	C Breadth DIST.	RATIO B to A	RATIO C to A	BONE NO	A Length	B Breadth PROX.	C Breadth DIST.	RATIO B to A	RATIO C to A	BONE NO	A Length	B Breadth PROX.	C Breadth DIST.	RATIO B to A	RATIO C to A
C 3162 ⁽¹⁴⁾	95.3	20.5	18.7	21.5	19.6	C 2120 ⁽¹⁴⁾	98.5	21.4	19.3	21.5	19.6	C 9452 ⁽¹⁴⁾	104.6	23.8	22.4	22.7	21.4
C 7055 ⁽⁴⁾	95	20.1	19.1	21.1	20.0	D 2182 ⁽³⁾	95	20.3	18.4	21.4	19.3	D 4340 ⁽⁶⁰⁾	97.6	21.9	20.4	22.4	20.9
C 5949 ⁽⁴⁾	103.7	20.6	19.2	19.8	18.5	C 9653 ⁽⁴⁾	96.8	21	18.9	21.7	19.5	D 3587 ⁽⁶⁰⁾	94.4	20.4	18.5	21.6	19.6
D 5681 ⁽⁴⁾	101.8	21	19.1	20.6	18.7	D 5482 ⁽³⁾	100.1	22.4	21.7	22.4	21.7	B 9772 ⁽¹⁶⁾	98.7	21.3	19.9	21.6	20.1
D 4985 ⁽¹³⁾	96.3	22.5	20.5	23.3	21.2	C 7740 ⁽⁴⁾	99.4	21	19.6	21.1	19.7	D 6554 ⁽³⁾	96.7	20.8	19.3	21.4	19.9
D 187 ⁽⁴⁾	97	21.9	19.6	22.5	20.2	D 2884 ⁽³⁾	92.4	22.2	20.5	24.0	22.2	D 3039 ⁽³⁾	96.5	21.9	19.7	22.7	20.4
C 316 ⁽¹⁶⁾	103.4	22.5	20.7	21.8	20.0	B 9955 ⁽¹⁶⁾	97.9	18.7	17.6	19.1	18.0	D 5801 ⁽¹³⁾	100.7	21.2	19.7	21.1	19.6
B 8512 ⁽¹⁶⁾	99.6	20.4	18.2	20.5	18.2	B 8571 ⁽¹⁶⁾	96.1	20.6	19.1	21.4	19.8	C 9720 ⁽⁴⁾	103	22.7	21.2	22.0	20.6
D 3540 ⁽¹⁶⁾	96.6	20.1	18.6	20.8	19.2	D 5100 ⁽¹³⁾	97	19.9	17.3	24.3	18.8	D 3010 ⁽³⁾	95.4	21.5	19.6	22.5	20.5
C 393 ⁽¹⁶⁾	98	21	20.5	21.4	20.9	D 4395 ⁽⁶⁰⁾	103.6	23.7	22	22.8	21.2	B 9477 ⁽¹⁶⁾	96.1	21.1	19.4	21.9	20.1
B 4660 ⁽¹⁶⁾	95.1	19.6	18.8	20.6	19.7	D 53 ⁽⁴⁾	99.5	22.6	21.3	22.7	20.4	C 937 ⁽¹⁶⁾	101	20.6	18.5	20.4	18.3
C 5840 ⁽⁴⁾	99.8	23.5	22.3	23.5	22.3	D 4007 ⁽⁶⁰⁾	97.1	22.9	20.1	23.5	20.4	C 331 ⁽¹⁶⁾	100.4	22.4	20.3	22.3	20.2
C 375 ⁽¹⁶⁾	98.6	21.8	19.7	22.1	19.9	C 7143 ⁽⁴⁾	96.6	21.2	18.8	21.9	19.4	C 9326 ⁽⁴⁾	98.5	21	19.9	21.3	19.2
B 9596 ⁽¹⁶⁾	96.7	20.8	18.2	21.5	18.8	C 45 ⁽¹⁶⁾	99.5	21.8	20.3	21.9	20.4	B 9597 ⁽¹⁶⁾	97.5	20.2	18.4	20.7	18.8
B 9497 ⁽¹⁶⁾	99.7	23.5	20.3	23.5	20.3	C 127 ⁽¹⁶⁾	93.2	20	18.5	21.4	19.8	C 7181 ⁽⁴⁾	97.4	20.5	18.7	21.0	19.2
C 5236 ⁽⁴⁾	99.5	21.4	19	21.5	19.1	C 83 ⁽¹⁶⁾	99.8	20.5	19.7	20.5	19.7	D 6640 ⁽⁶⁾	99.1	21.2	19.6	21.3	19.7
C 3283 ⁽¹⁶⁾	102.7	23.8	22.6	23.2	22.0	C 7664 ⁽⁴⁾	97.8	20.1	18.9	20.5	19.3	C 9978 ⁽⁴⁾	98.2	20.6	18.3	21.0	18.8
D 3577 ⁽⁶⁰⁾	99.8	21.7	20	21.7	20.0	D 3482 ⁽²⁾	97.8	21.5	19.1	22.0	19.5	C 7473 ⁽⁴⁾	102	22.3	20.5	22.1	20.1
C 418 ⁽¹⁶⁾	103.6	24.5	22.3	23.6	21.5	B 8438 ⁽¹⁶⁾	96.1	23.5	20.6	24.4	21.4	D 4955 ⁽¹³⁾	100.9	23.6	21.7	23.4	23.1
C 4431 ⁽¹⁴⁾	95.4	21	19.5	22.0	20.4	D 6876 ⁽⁷⁷⁾	93.9	19.6	17.9	20.8	19.0	C 8815 ⁽⁴⁾	97.7	21.1	18.6	21.6	19.0

Left tarsometatarsi - L2 Breez Aguila

Bone No	Length A	Breadth Prox. B	Breadth Dist. C	Ratio B to A	Ratio C to A	Bone No	Length A	Breadth Prox. B	Breadth Dist. C	Ratio B to A	Ratio C to A	Bone No	Length A	Breadth Prox. B	Breadth Dist. C	Ratio B to A	Ratio C to A
(10) D 4666	100.7	23.7	22.3	23.5	22.1	B 86 13 16	96.4	21.1	19.2	21.8	19.9	D 69 89 13	99.1	21.6	20.1	21.7	20.2
2) D 3380	103.2	23	21	22.2	20.3	D 31 07 3	98.2	20.7	18.7	21.1	19.0	C 27 99 14	98	22	19.7	22.4	20.1
(13) D 5861	97.5	21.2	18.2	21.7	18.6	C 96 90 4	100	21.3	19.2	21.3	19.2	D 65 43 13	99	21.7	19.8	21.9	20.0
3) D 2980	102.5	24.3	21	23.7	20.6	D 26 82 3	98.8	23	21	23.2	21.3	B 96 40 14	96.1	20.4	18.7	21.2	19.4
(16) C 1867	107.0	21.8	19.6	20.3	18.3	D 30 03 3	100.5	22.8	20.7	22.7	20.6	B 92 87 14	94.3	21.7	19.9	23.0	21.1
(14) B 8529	103.7	22.3	20.7	21.5	19.8	C 11 13 16	103.2	23.3	21.3	22.5	20.4	D 49 52 13	95.6	22.5	20.5	23.5	21.3
(16) C 1139	98.8	21.3	19.2	21.5	19.4	C 95 43 4	92	20.4	18.5	22.1	20.1	D 36 57 60	97.5	20.9	18.2	21.4	18.6
(1) C 9148	100.4	20.6	19.3	20.5	19.2	D 31 85 (1)	101.7	20.5	19.5	20.1	19.2	D 38 76 60	97.3	22.5	20.6	23.1	21.2
(10) D 3566	102.8	24	21.6	23.5	21.0	C 8 04 (16)	101.1	22.4	20.3	22.1	20.0	D 34 91 12	99.8	20.8	19	20.8	19.1
(4) C 8048	97.9	20	19.3	20.4	19.7	C 94 95 4	100.6	20.9	18.6	20.7	18.5	D 34 85 2	95.8	20.3	18.4	21.2	19.2
(13) D 5755	95.8	20.9	19.3	21.8	20.1	D 40 29 60	103.1	20.9	18.9	20.3	18.3	C 89 14	96.1	21	20.1	21.8	20.9
(13) D 5227	99.6	23.9	21.4	23.9	21.5	B 94 61 16	100.5	23	20.7	22.8	20.4	D 42 76 60	96.1	22.6	20.4	23.4	21.2
(11) B 8585	103.6	23	21.3	22.2	20.5	D 43 41 60	99.6	23.8	21.4	23.9	21.5	D 26 73 3	97.5	22.4	20.9	22.9	21.4
(5) D 2115	93.6	20.4	18.1	21.8	19.3	B 92 46 16	96.1	21.6	20.8	22.5	21.4	D 50 96 13	101.9	23.4	21.4	23.0	21.0
(11) B 9238	97.9	21.4	19.6	21.8	20.0	D 60 91 13	97.7	21.6	19.6	22.1	20.0	D 1 99 4	95.8	22	20.8	22.9	21.7
(10) D 4069	101.3	21.3	20	21.0	19.7	C 88 54 4	97	20.8	19.1	21.4	19.7	D 27 06 3	94.2	21.4	19.7	22.7	20.9
(10) D 3549	93.1	20.7	18.5	22.2	19.8	B 94 28 14	101.2	20.3	17.8	20.0	17.6	C 80 02 4	95.7	20.9	19.6	21.8	20.4
(1) C 8570	100.2	23.4	21.2	23.3	21.1	D 30 98 (3)	95.8	21.8	19.1	22.7	19.9	C 32 14	96.3	20.5	18.8	21.3	19.5
(1) C 9268	99.5	21.5	20.2	21.6	20.3	B 85 24 (16)	99	21.5	19	21.7	19.2	D 66 85 67	94.9	19.9	18.2	20.9	19.1
(14) B 9639	97	20.8	19.6	21.4	20.2	D 44 91 (60)	98.9	21.1	19.6	21.3	19.8	D 67 76 (79)	100.9	23.3	21.1	23.2	20.9

Left tarso metatarsi - La Brea Aquila

Paw Bone No	A	B	C	Ratio B to A	Ratio C to A	Bone No	A	B	C	Ratio B to A	Ratio C to A	Bone No	A	B	C	Ratio B to A	Ratio C to A
	Length	Breadth Prox.	Breadth Dist.				Length	Breadth Prox.	Breadth Dist.				Length	Breadth Prox.	Breadth Dist.		
2 D 3488	100.4	23.3	20.4	23.2	20.3	C 653 L (4)	102.1	21.4	19.3	20.9	18.9	C 1181 16	103.3	24.5	21.9	23.6	21.1
3 D 6249	96.4	22.3	19.4	23.1		C 75 (16)	93.5	18.8	17.8	20.1	19.0	D 5304 13	103.3	24.4	22.5	23.6	21.7
14 B 9571	97.3	22	20.1	22.6	20.6	D 2074 (3)	95.3	22.3	20.6			C 8381 4	100.6	21.4	19.4	21.2	19.3
4 C 8732	97.1	20.1	18.4			C 674 (16)	93	20.4	18.9	21.9	20.3	C 582 16	102.3	21.6	19.7	21.1	19.2
60 D 4611	100.6	23.4	20.5	23.2	20.2	C 6133 (4)	101.4	23.2	21.1	22.9	20.8	C 6536 4	98.7	22.8	20.9		
3 D 3105	97	22.4	21	23.1		C 2170 (16)	100.7	23.8	22	23.6	21.7	D 2242 3	93	19.8	19.3		
3 D 2688	96.8	20.6	19			C 6526 (4)	97.8	22.9	21.3			D 1923 3	97.2	20.1	18.9		
60 D 3862	99.3	20.9	19.3			C 5419 4	97.1	19.6	17.3	20.2		C 4126 16	97.1	20.6	18.7	21.2	19.2
14 B 9412	92.4	19.9	18.4	21.5	19.9	C 5464 4	96.3	20.2	19			C 4936 16	104.9	22.5	21.3	21.4	20.3
60 D 4069	101.3	21.3	19.8	21.0	18.8	C 7595 4	99.5	21.1	20			B 9306 16	96	20.6	18.6	21.4	19.3
4 C 9240	102.3	20.5	19.2	20.0	18.7	C 707 16	105.1	24.5	21.9	23.3	20.8	C 6878 4	98.5	21	19.3		
14 B 9361	102.3	21	18.5	20.5	18.0	C 4682 16	99.3	21.2	19	22.5	20.1	C 4121 16	99.7	21.3	19.3	21.3	19.3
20 D 3382	98.7	20.9	19.3			D 5982 13	99.4	21.2	17.9			C 9170 4	100.1	20.1	18.1	19.8	18.0
60 D 3795	100.7	22.8	21.1	22.6	21.0	D 2523 3	101.6	23.1	20.4	22.8	20.0	D 2224 4	100.5	22.7	20.2	22.6	20.1
4 D 725	96.9	21.5	19.4			C 3632 16	99	21.6	19.9	21.8	20.1	C 654 16	103.2	22.4	20.3	21.6	19.6
14 B 8888	92.4	20	19.1	21.6	20.7	B 9499 16	99.4	21	19.1	21.1	19.2	C 793 16	98.3	21.1	19.1	21.4	19.4
14 B 8470	99.7	21.6	19.3	21.6	19.3	C 341 16	99.3	22.1	21.5	22.2	21.6	C 4513 16	94.3	20.3	19.3	21.5	20.4
4 C 9029	99.9	23.8	21.5	23.8	21.5	C 4285 16	95	21.7	19.1	22.8	20.1	C 729 16	92	20.4	18.4	22.1	20.0
13 D 5738	103.5	23	21.8	22.2	21.0	C 4916 16	103.7	21.9	19.9	21.1	19.2	D 400 4	98.7	21.5	18.6		
14 C 1871	99.3	20.8	18.8	20.9	18.9	D 1739 3	98.8	20.2	19.4			C 9136 4	96	22.4	20.2		

Left tarsometatarsi - La Brea Aquil 2

Bone No	A Length	B Breadth PROX.	C Breadth DIST.	Ratio B to A	Ratio C to A	Bone No	A Length	B Breadth PROX.	C Breadth DIST.	Ratio B to A	Ratio C to A	Bone No	A Length	B Breadth PROX.	C Breadth DIST.	Ratio B to A	Ratio C to A
C 7964 +	98.4	20.1	19.2			C 358 16	101	23.9	21.3	23.6	21.0	B 97 83 16	99.2	21	19	21.1	19.1
C 8717 +	103	24.7	22.1	24.0		C 9238 4	102.7	23.7	20.7			C 7 16 16	96.3	20.6	18.9	21.4	20.7
C 5897 4	98.6	22.9	21.4			C 9705 4	97.3	21.1	19.2			C 32 40 16	99.7	20.1	19.8	21.1	19.8
C 7036 4	96.5	20.6	19.3			C 5012 16	98.3	22.5	20.2	22.8	20.5	C 41 63 16	101.1	23.1	20.8	22.8	20.5
C 3757 16	103	24.1	21.4	23.4	20.8	C 8802 4	98.4	20	18.5			C 53 34 4	100.9	23.5	21		
C 6504 4	101.4	21.3	19.8			C 34 55 16	100.3	21.3	19.5	21.2	19.4	C 48 37 16	94.3	20.5	18.7	21.7	19.8
C 6539 4	96.3	22.8	21.3			C 35 43 16	95.8	20.7	18.5	21.4	19.3	C 34 27 16	100.2	21.7	18.8	21.6	18.7
D 180 4	97.9	20.3	19.1			C 37 94 16	97.8	21.3	19.1	21.7	19.5	C 21 75 16	99.5	21	18.2	21.1	18.3
D 2287 3	94.5	20.8	19			C 82 82 4	96.5	20.4	18			C 54 0 16	96.6	20.1	18.4	20.8	19.0
C 4861 16	94.8	20.1	18	21.2	18.9	C 7107 4	95.9	21	18.9			C 49 28 16	96.7	20.7	19.9	20.4	20.5
C 6524 4	96.7	20.1	18.1			C 64 6 16	96.1	22.4	20.5	23.3	21.2	C 46 7 16	97.6	22.9	20.5	23.4	21.0
C 6669 4	97	23.7	21.5	24.4		C 9177 4	96.6	20.6	18.5			D 25 78 3	94.1	20.3	18.5	21.6	
C 5435 +	100.3	21.6	20.3	21.5		B 92 42 16	95.5	20.6	19.9	21.5	20.8	C 76 55 4	97.1	22	20.4		
D 2186 3	98.7	20.7	18.7			C 21 97 16	102.5	21.1	19.5	20.6	19.0	D 73 2 4	99	20.7	19.3		
C 5241 4	97.7	20.7	18.9			C 62 04 4	94.3	20.5	18.5			C 94 32 4	99.6	23.7	21	23.6	
C 4755 16	96	20	18.4	20.8	19.1	C 52 23 4	97.9	20.5	19.1			C 35 36 16	96.7	20.5	18.7	21.2	19.3
C 6810 4	102.1	22.4	20.6			C 47 34 16	99.1	22.1	21.2	22.2	21.3	D 14 48 3	97.3	20.1	19.2		
D 1872 3	99.1	21	19.6			C 68 1 16	100.5	22.6	22	22.5		C 34 52 16	96.6	20.4	18.9	21.1	19.5
C 6017 4	98.7	20.5	19			C 15 03 16	99.4	21.6	19.3	21.7		D 17 84 3	102.3	22.8	20.5		
C 4010 16	100.6	21	19.1	20.8	18.9	C 33 94 16	97.8	20.4	18.7	20.8		D 62 00 13	101.6	23.3	21.7		

Left tarsometatarsi - La Brea Aquila

Bone No	A Length	B Breadth PROX.	C Breadth DIST.	Ratio B/A	Ratio C/A	Bone No	A Length	B Breadth PROX.	C Breadth DIST.	Ratio B/A	Ratio C/A	Bone No	A Length	B Breadth PROX.	C Breadth DIST.	Ratio B/A	Ratio C/A
3D 2573	95.5	20.4	19.4			C 7182 ⁴	97.4	23.6	20.7	24.3		C 657 ¹⁴	98.1	20.8	18.9		
16C 4761	93.6	21	20.4			C 610 ¹⁴	98.2	22.4	20.4			C 4172 ¹⁴	96.9	21.1	19.5		
4C 6455	97.5	20.2	19			C 626 ¹⁴	99.1	21	19.1			D 2181 ³	95.7	21.9	21		
16C 2116	100.7	23	21			C 6773 ⁴	94.5	20.2	19.7			C 325 ¹⁴	95.8	20.9	18.3		
16C 4229	98.2	22.6	20.7			D 1679 ³	97.3	20.9	19.6			C 6424 ⁴	97.4	21.7	20.5		
16C 3590	97.7	20.8	18.7			C 427 ¹⁴	96.2	21.1	19.4			D 2539 ³	100.7	22.3	20.5		
4C 5171	99.7	21.3	18.7			C 6480 ⁴	97.6	23.4	21.9			C 8296 ⁴	97.3	20.4	19.7		
16C 377	103.9	23.1	20.6			D 2090 ³	97.5	22.2	19.7			C 4830 ¹⁴	99.8	23.9	21.6		
4C 5474	96.9	20.5	19.4			B 9514 ¹⁴	95.0	21	19.4			C 1171 ¹⁴	100.2	21.5	19.4		
16B 9774	97.5	21.9	21			C 5463 ⁴	101.2	22.1	20.7			C 8558 ⁴	101.4	23.2	21.5		
3D 3123	103.4	23.7	21.6			C 4248 ¹⁴	99.1	22.5	20.7			C 9023 ⁴	100.4	20.5	19.1		
C 644 ¹⁴	94.7	21.8	19.8			D 1901 ³	97.9	22.9	20.8			C 581 ¹⁴	97.1	20.6	19.4		
C 4752 ¹⁴	97.1	21	19.3			C 2042 ¹⁴	99.5	21.3	18.9			C 1567 ¹⁴	98.5	22.9	20.7		
C 9025 ⁴	97.4	22.7	21			C 3205 ¹⁴	97.4	24	21.2			C 3440 ¹⁴	93.8	19.9	19.1		
D 718 ⁴	99.6	21.1	18.3			C 4084 ¹⁴	101.5	24.1	21.4			C 9099 ⁴	101.1	20.6	18.6		
C 8277 ⁴	100	20.7	19.3			D 1312 ³	95.3	20.3	23.6			C 3247 ¹⁴	98.2	21.5	19.4		
C 4512 ¹⁴	97.4	20.1	19.1			B 9658 ¹⁴	96.5	22.2	20.8			C 3389 ¹⁴	103.2	22.8	21.4		
C 3619 ¹⁴	99.3	20.8	19.4			C 4033 ¹⁴	103	25.2	23	24.4		C 301 ¹⁴	99.4	21.4	19.8		
C 5025 ¹⁴	105.4	23.5	20.4	22.3		C 4737 ¹⁴	100.6	23.1	21.1			D 2258 ³	101.2	22.8	21.5		
C 774 ¹⁴	98.5	21.1	18.9			C 8369 ⁴	95.5	19.7	18.3	20.4		D 3507 ²	101.6	21	19.8		

Eguila La Brea
coracoid length

Claviles

	length	Bz			Bz	length
E4992	63.0	79.1	C1271	67.7	77.6	84.6 73.2
D1083	67.8	78.2	D342	70.0		
C6564	67.2		C5541	69.8		
D627	63.7		C772	67.7		
C6001	63.7		C3664	62.0		
C1092	62.5		C1566	65.8		
C9328	69.2		J889	64.0		
J6259	67.6		D3129	63.1		
C3193	68.2					
C9682	64.4					
D5843	68.5					
C3235	71.9					

$$\begin{array}{r} 84.6 \\ 70.1 \\ \hline 282 \\ 3 \overline{) 2419} \\ \underline{806} \end{array}$$

aver. 47 bones 224.4

Alma Aguirre LaBree Length

201	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41
								///		I	///	I			///	///				
								///	///	///	///		///	I		///		I	I	I

202	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
					I		I	I	///	I	I			I	I		I		I
						///		///	I	///	///	I				I	I	I	///

1 811.5
 1 2440
 6 1302.0
 2 438.0
 7 1547.0
 4 892.0
 1 225.0
 3 681.0
 1 220.0
 3 693.0
 1 232.0
 3 737.0
 1 241.0
 35 7672.5

1 212.0
 3 642.0
 1 216.0
 4 872.0
 5 1100.0
 5 1110.0
 4 896.0
 1 226.0
 1 230.0
 1 232.0
 1 234.0
 1 247.0
 1 248.0
 2 480.0
 32 7126.0

7672.5
 7160.0
 67) 14832.5 (221.3
 134
 143
 134
 92
 67
 255

35
 32
 67
 224
 327160.0
 67
 76
 64
 120
 128

219.2
 35) 7672.5
 70
 67
 35
 322
 395
 75

219.2
 224.0
 2) 443.2
 221.1
 22
 233
 6

aver on 116 bones = $124.7 \times 242 = 124.9$

$11 \quad 11 \quad 124 \quad 11 = 125.0$
 $11 \quad 11 \quad 119 \quad 11 = 125.3$

25. *Agave americana* L.

Note variation } sometimes gl length is at int. condyle
 " " " " " ext- condyle

min 113
max 136
ave 125

113	115	117	119	121	123	125	127	129	131	133	135	137
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11	1	111	111 11	111 11	111 11111	111 111	11	1
					1111	11		

60

1	1	11	111	1111	11111	111111	1111111	11111111	11	1
		25		11	11			24		

62

I	I	II	III	IV	V	VI	II	II	III
			III	III					
			24			21			

63

114	116	118	120	122	124	126	128	130	132	134	136	138
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1	///	///	///	///	///	///	///	///	///	1
---	-----	----------------	----------------	----------------	----------------	----------------	-----	-----	----------------	---

56

一	一	一	五	七	三	四	三	三	三
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64

[illegible]52
$$\begin{array}{r} 36 \\ 25 \\ \hline 61 \end{array} \quad \begin{array}{r} 24 \\ 28 \\ \hline 52 \end{array}$$
$$\begin{array}{r} 2724 \\ 2421 \\ \hline 5145 \end{array}$$
$$\begin{array}{r} 27 \\ 42 \\ \hline 69 \\ 38 \\ \hline 107 \end{array}$$

357

aver 42 = 161.1
 " 122 = 161.1

La Brea Aguilas Length Tibia

May 172.15
 min 148
 aver 161

148	150	152	154	156	158	160	162	164	166	168	170	172	
		I		III	III	III	III	III	I	I	I		25
I	I	I	IIII	IIII	IIII	IIII	IIII	IIII	IIII	II	I	I	62

149	151	153	155	157	159	161	163	165	167	169	171	173	
		II	II	II	II	II	I	II	I	II			22
	II	II	IIII	IIII	IIII	IIII	IIII	IIII	IIII	II	II		62

180

Leucis Aquila

- Africa *A. verreauxi* - tarsi 108 mm. ✓
A. chrysaetos - " 95-103 " (Amer. bird larger)
 S.E. Europe *A. heliaca* - " 99- ✓
 Spain *A. adalberti* - " 99-101 ✓
 Af. *A. heliaca* - " 101 = Peters *nipalensis*
 Russia *A. mongolica* - " 88-95 ✓
 Af. *A. rapax* - " 82-83 ✓
 India *A. vindhiana* - (near *rapax*?)
 Africa *A. wahlbergi* - 76 ✓
 Cent Europe *A. maculata* - 88 ✓ *pomarina* of Peters
 (= *naevius*?)
 India *A. hastata* - 99 ✓
 (subsp.?)
 (of *naevius*?)
 Ruminthia *A. clausa* 99-107 ✓
 (subsp. *naevius*)

Peters *A. verreauxi* " too large
A. wahlbergi " too small
A. pomarina *pomarina* too small
pomarina *hastata*

- ★ *A. clausa*
 { *A. chrysaetos* Europe
 " fulva - Scotland
 " *honeyeri* - Spain + Africa
 " *obscurus* - Russia + Mongolia
 " *kamtschatica* - Kamchatka
 " *japonica* - Japan, Korea
 " *canadensis* - N. Amer. 12.5-107.8 according to Ridgway
 365 mm - 425 mm

- ★ *A. heliaca* *heliaca*
 " *adalberti*
 ? *A. rapax* *belisarius*
 " *rapax*
 " *rapax* - too small
 " *vindhiana* too small
 ? *A. nipalensis* *orientalis*
 " *nipalensis*

average of 263 bones = 98.8
 " of all on this page = 98.7 mm

Faisus Aquila da Brea

Belmonte, Lino
 = Agent

146
 113
 261
 139

12

90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107
~~61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76~~

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

84
 146

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

106

27

21

90.5 91.5 92.5 93.5 94.5 95.5 96.5 97.5 98.5 99.5 100.5 101.5 102.5 103.5 104.5 105.5 106.5 107.5
~~61.5 62.5 63.5 64.5 65.5 66.5 67.5 68.5 69.5 70.5 71.5 72.5 73.5 74.5 75.5 76.5~~

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

55
 117

67

18

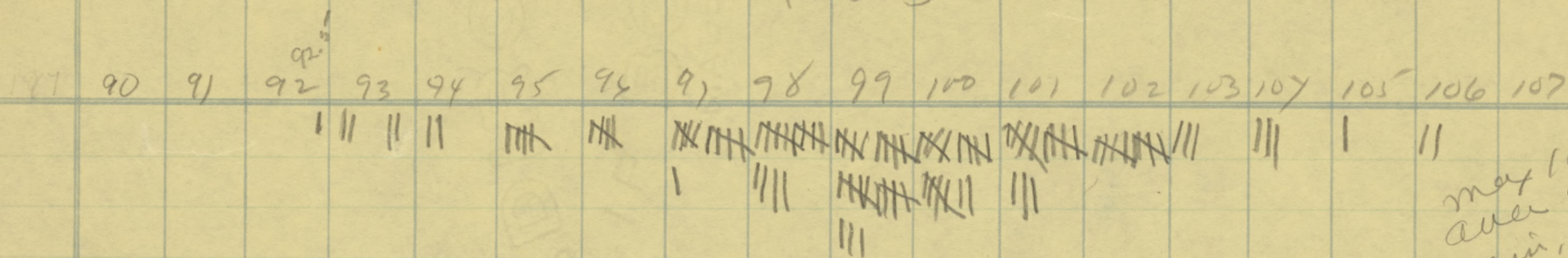
19

660

12

Aquila - McKitch
~~Jas~~

Tams



11
max 106.5
aver 99.2
min 92.5
114 Bones

Hummer 179, 198, 3, 205

Uluu 240.2, 235.2

clav. length

~~680~~
~~101.82~~

Carpus

110.2

958

99.7

98

97.2

106

106.7

97.8

101.4

102.4

1047

N3.8

99.3

1028

1000-8

999

101.3

102.1

101.4

1030

106.1

105.8

109.

101.3

101.3

$$\begin{array}{r} 240^{\circ} \\ 235^{\circ} \\ \hline 29^{\circ} 49' 55'' \\ 237^{\circ} \end{array}$$

$$\begin{array}{r}
 179 \\
 198 \\
 \hline
 205 \\
 208 \\
 \hline
 3) 582 \\
 \hline
 194
 \end{array}$$

	927	87 486	✓ 1442	✓ 926	✓ 1407	✓ 474	✓ 900	✓ 1407	✓ 923	✓ 679	✓ 471	✓ 1420	✓ 341	151	899
Kare	101.8		102.0	99.0	104.8	97.8	102.4	104.8	98.6	101.3	100(421)	100.5			97.8
48	165		169.5	161.0	167	157.5	168.0	167.5	161.0	161	164(421)	163			159.0
Sum	128.7	122.4	131.7	122.3	130.6	121.6	129.7	130.8	122.5	124.4	131.8	126.6	123.7	126.7	122.4
Kaprus	106.3		105.2	98.6	109.0		101.5	109.2	98.2	101.8	106.2(421)	102.8			
Alina	225		230.0	211	231.0		225	230.5	210	211	223.5(421) 218(154)	219			
Sum	192	179.0	198.0	182.0	200.0	176.5	195	200.0	179.0	181		186			158
Sum	64.8	65.5	70.9	68.3	76.4	69.6 64.3(345)	67.1	76.4	67.3	62.3	70.6	66.5			64.6
Length	122.4	113.0	121.5	120.0	120.2	115.0 110.6(345)	122.4	121.4	117.3	113.2	120.0	117.5			114.5
Relief	95.8	86.4	87.3	89.4	96.5	87.9 84.2(345)	89.7	97.3	89.8	88.2	97.1(345)	92.1	95.2(200?)		
Vol	60.1	59.0		57.8	63.9	54.3 54.6(345)	59.6	63.9	63.0	56.3	63.0 57.7(200)	59.6	64.6		
Sum	86.0	72.4	77.8	79.2	85.2	73.3	84.3	84.6	79.8	77.3	78.8	74.8	79.6	88.8	72.8
Length	67.2	58.0	68.1	65.9	69	58.7	65.8	69.0	62.0	58.7	68.8	60.2	59.8	69.8	58.6
Vol	69.0	64.4	70.5	65.3	70.6	63.9	68.5	71.2	63.2	64.4	72.1		63.5	74.1	64.6
Mid							93.3	92.6	85.8?	86.4		87.2			
Length	90.8		90.1	87.8	92.7		35.7	34.2	33.3	32.6		31.8			
By mid	34.3		33.2	33.7	35.1		18.3	16.1		15.7		16.8			
Length	17.0		16.5	16.0	16.1										
Rates															
by e															
Sum	51.3	57.6	58.4	56.8	63.5	60.6 58.2	54.7	63.0	57.3	54.5	58.8	56.6	58.9 52.2		56.0

Length from ext. ear to tip of
 (jaw) at distal end of M2 (not longest pt.) La Brea *Aquila*
 Length *carp*

mod.

max 113
 min 92.5
 aver 103
 102

aver. 56 bones - 103 mm. 7) 102.6

" 52 " - 102.1

" 86 " 103.6

5 103

194

92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113
																					8
			1																		52
																					96

Pt 10 Aguila Taurus

max 107.6
mean 99.1
min 93?
67 bones
107.6

90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107

1? 1 1 ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~ ~~II~~

1 93

2 190

11 1056

15 1455

9 882

8 800

3 303

4 408

8 824

4 416

1 106

1 007

99.1

67) 6640
603
610
603
70

Agguila

Left & right tarsometatarsi
La Brea Quila

Pt 16

Pt 4

Pt 16

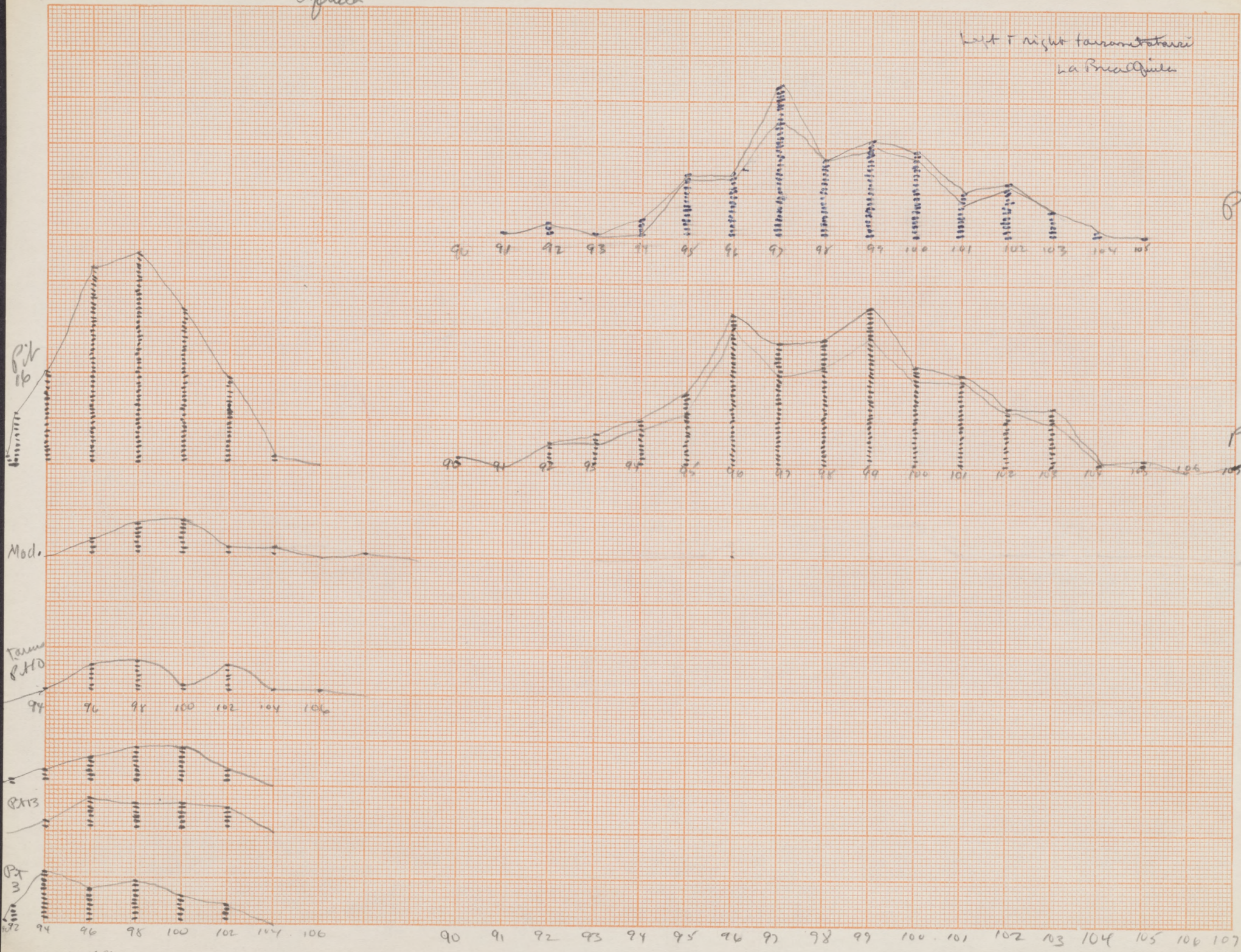
Mod.

Tarsus
P.H.O.

Pt 13

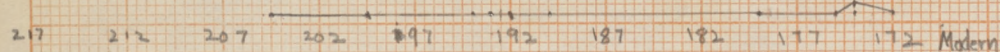
Pt 3

X + 70

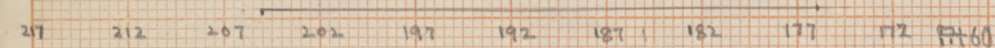


Light Eagle. burner - measured by Bill Dawson

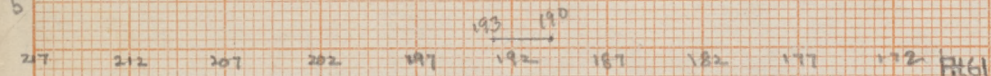
means by 44



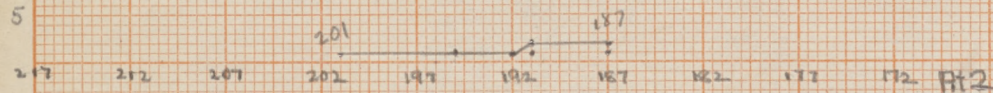
Mean 186.0



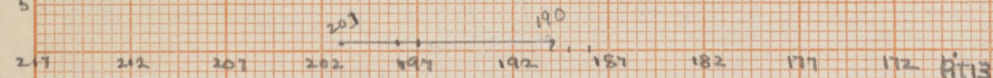
Mean 192.0 ✓



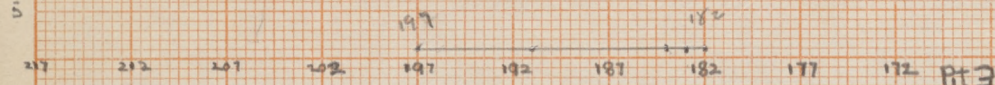
Mean 191.5 ✓



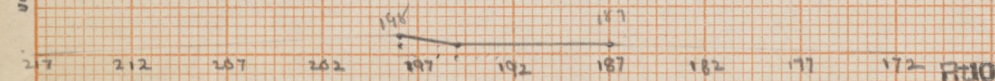
Mean 192.0 ✓



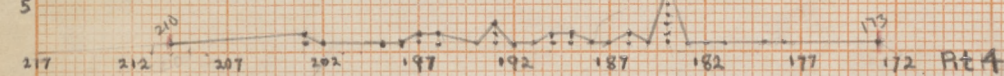
Mean 192.5 ✓



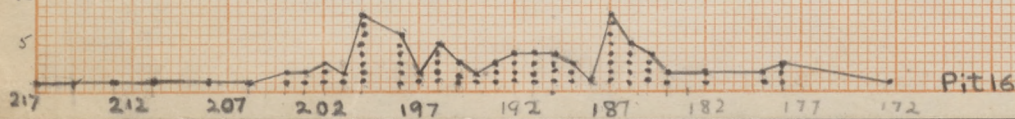
Mean 187.4 ✓



Mean 188.5



Mean 189.7 ✓



Mean 194 ✓

88

